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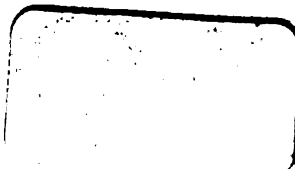
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AMERICAN
NAUTICAL ALMANAC

FOR THE YEAR

1 8 9 1

SECOND EDITION

PUBLISHED BY AUTHORITY OF THE SECRETARY OF THE NAVY

WASHINGTON:
BUREAU OF EQUIPMENT.
1890.

PRICE 50 CENTS

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PREFACE.

THE portion of *The American Ephemeris and Nautical Almanac* contained in this volume is designed for the special use of navigators, and is adapted to the meridian of Greenwich. It contains the ephemerides of the sun and moon; the distances of the moon from the centres of the sun and of the four most conspicuous planets and from certain fixed stars; the ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn; and the mean places of 150 fixed stars for the beginning of the year 1891. Elements of the eclipses which occur during the year, with charts of the eclipses of the sun, are also given. Tables for the reduction of mean and sidereal time and for finding the latitude by observation of the altitude of Polaris have been appended.

The methods, tables and constants that have been used in the construction of the Almanac, may be learned by reference to the article on the construction of the astronomical and nautical ephemerides, in the larger volume of *The American Ephemeris and Nautical Almanac* for the year 1891.

SIMON NEWCOMB,

Professor U. S. Navy, Superintendent.

WASHINGTON, March, 1888.

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CHRONOLOGICAL ERAS AND CYCLES.

CHRONOLOGICAL ERAS.

THE YEAR 1891, WHICH COMPRISES THE LATTER PART OF THE 115TH AND THE BEGINNING OF THE 116TH YEAR OF THE INDEPENDENCE OF THE UNITED STATES OF AMERICA, CORRESPONDS TO—

The year 6604 of the Julian Period;

- " 7399-7400 of the Byzantine era, the year 7400 commencing on September 1st;
- " 5651-52 of the Jewish era, the year 5652 commencing on October 3d, or, more exactly, at sunset on October 2d;
- " 2644 since the foundation of Rome, according to VARRO;
- " 2638 since the beginning of the era of NABONASSAR, which has been assigned to Wednesday, the 26th of February of the 3967th year of the Julian Period: corresponding, in the notation of chronologists, to the 747th; and, in the notation of astronomers, to the 746th year before the birth of CHRIST;
- " 2667 of the Olympiads, or the third year of the 667th Olympiad commencing in July, 1891, if we fix the era of the Olympiads at 775½ years before CHRIST, or near the beginning of July of the year 3938 of the Julian Period;
- " 2203 of the Grecian era, or the era of the Seleucidæ;
- " 1607 of the era of DIOCLETIAN;
- " 2551 of the Japanese era and to the 24th year of the period entitled "Meiji."

The year 1309 of the Mohammedan era, or the era of the Hegira, begins on the 7th day of August, 1891.

The first day of January of the year 1891 is the 2,411,734th day since the commencement of the Julian Period.

CHRONOLOGICAL CYCLES.

Dominical Letter	D	Solar Cycle	24
Epact	20	Roman Indiction	4
Lunar Cycle or Golden Number	11	Julian Period	6604

SYMBOLS AND ABBREVIATIONS.

SIGNS OF THE PLANETS, ETC.

☉ The Sun. ☾ The Moon. ☿ Mercury. ♀ Venus. ♁ The Earth.		♂ Mars. ♃ Jupiter. ♄ Saturn. ♅ Uranus. ♆ Neptune.
--	--	--

SIGNS OF THE ZODIAC.

Spring Signs. { 1. ♈ Aries. { 2. ♉ Taurus. { 3. ♊ Gemini. Summer Signs. { 4. ♋ Cancer. { 5. ♌ Leo. { 6. ♍ Virgo.		Autumn Signs. { 7. ♎ Libra. { 8. ♏ Scorpius. { 9. ♐ Sagittarius. Winter Signs. { 10. ♑ Capricornus { 11. ♒ Aquarius { 12. ♓ Pisces.
--	--	---

ASPECTS.

- ♌ Conjunction, or having the same Longitude or Right Ascension.
- ☐ Quadrature, or differing 90° in Longitude or Right Ascension.
- ♌ Opposition, or differing 180° in Longitude or Right Ascension.

ABBREVIATIONS.

♊ Ascending Node. ♋ Descending Node. N. North. S. South. E. East. W. West.		° Degrees. ' Minutes of Arc. " Seconds of Arc. h Hours. m Minutes of Time. s Seconds of Time.
--	--	---

ASTRONOMICAL EPHEMERIS

FOR THE

MERIDIAN OF GREENWICH

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	S. [°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
Thur.	1	18 47 9.38	11.041	S. 23 0 40.2	+12.44	16 18.41	71.09	3 44.85	1.181
Frid.	2	18 51 34.20	11.027	22 55 27.9	13.58	16 18.41	71.04	4 13.03	1.167
Sat.	3	18 55 58.71	11.013	22 49 48.2	14.72	16 18.40	70.99	4 40.90	1.153
SUN.	4	19 0 22.85	10.997	22 43 41.3	+15.85	16 18.38	70.94	5 8.41	1.137
Mon.	5	19 4 46.59	10.980	22 37 7.3	16.97	16 18.36	70.88	5 35.51	1.120
Tues.	6	19 9 9.89	10.962	22 30 6.5	18.09	16 18.33	70.82	6 2 18	1.102
Wed.	7	19 13 32.74	10.943	22 22 39.0	+19.20	16 18.30	70.75	6 28.40	1.083
Thur.	8	19 17 55.10	10.922	22 14 45.0	20.30	16 18.27	70.68	6 54.14	1.062
Frid.	9	19 22 16.94	10.900	22 6 24.8	21.38	16 18.23	70.61	7 19.35	1.040
Sat.	10	19 26 38.24	10.876	21 57 38.6	+22.46	16 18.19	70.53	7 44.03	1.016
SUN.	11	19 30 58.97	10.851	21 48 26.6	23.52	16 18.15	70.45	8 8.13	0.991
Mon.	12	19 35 19.09	10.825	21 38 49.1	24.58	16 18.10	70.37	8 31.63	0.965
Tues.	13	19 39 38.58	10.798	21 28 46.5	+25.62	16 18.05	70.28	8 54.50	0.939
Wed.	14	19 43 57.41	10.771	21 18 19.0	26.65	16 17.99	70.19	9 16.71	0.911
Thur.	15	19 48 15.57	10.742	21 7 26.9	27.66	16 17.93	70.10	9 38.26	0.882
Frid.	16	19 52 33.03	10.711	20 56 10.6	+28.67	16 17.86	70.01	9 59.10	0.852
Sat.	17	19 56 49.76	10.680	20 44 30.3	29.66	16 17.79	69.91	10 19.23	0.821
SUN.	18	20 1 5.76	10.649	20 32 26.5	30.64	16 17.71	69.81	10 38.62	0.790
Mon.	19	20 5 21.02	10.618	20 19 59.4	+31.60	16 17.63	69.71	10 57.27	0.759
Tues.	20	20 9 35.52	10.586	20 7 9.4	32.55	16 17.55	69.61	11 15.16	0.727
Wed.	21	20 13 49.24	10.554	19 53 56.8	33.48	16 17.46	69.51	11 32.28	0.695
Thur.	22	20 18 2.18	10.522	19 40 22.1	+34.40	16 17.36	69.40	11 48.62	0.663
Frid.	23	20 22 14.33	10.490	19 26 25.6	35.30	16 17.26	69.29	12 4.16	0.631
Sat.	24	20 26 25.68	10.457	19 12 7.6	36.19	16 17.15	69.18	12 18.91	0.598
SUN.	25	20 30 36.23	10.423	18 57 28.4	+37.06	16 17.04	69.07	12 32.87	0.565
Mon.	26	20 34 45.98	10.390	18 42 28.5	37.91	16 16.92	68.96	12 46.03	0.532
Tues.	27	20 38 54.94	10.357	18 27 8.2	38.75	16 16.79	68.85	12 58.39	0.499
Wed.	28	20 43 3.09	10.323	18 11 28.0	+39.58	16 16.66	68.73	13 9.95	0.465
Thur.	29	20 47 10.43	10.290	17 55 28.2	40.30	16 16.52	68.62	13 20.71	0.432
Frid.	30	20 51 16.97	10.256	17 39 9.1	41.19	16 16.38	68.50	13 30.67	0.398
Sat.	31	20 55 22.70	10.223	17 22 31.2	41.97	16 16.23	68.39	13 39.82	0.365
SUN.	32	20 59 27.63	10.189	S. 17 5 34.8	+42.73	16 16.08	68.27	13 48.17	0.331

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Thur.	1	^h 18 ^m 47 ^s 8.69	11.037	S. 23° 0' 40.9	+12.43	^m 3 ^s 44.77	1.181	^h 18 ^m 43 ^s 23.92
Frid.	2	18 51 33.43	11.024	22 55 28.8	13.57	4 12.95	1.167	18 47 20.48
Sat.	3	18 55 57.85	11.010	22 49 49.4	14.71	4 40.81	1.153	18 51 17.04
SUN.	4	19 0 21.91	10.994	22 43 42.7	+15.84	5 8.31	1.137	18 55 13.60
Mon.	5	19 4 45.57	10.977	22 37 9.0	16.96	5 35.41	1.120	18 59 10.16
Tues.	6	19 9 8.79	10.959	22 30 8.4	18.08	6 2.07	1.102	19 3 6.72
Wed.	7	19 13 31.56	10.940	22 22 41.1	+19.19	6 28.29	1.083	19 7 3.27
Thur.	8	19 17 53.85	10.919	22 14 47.4	20.29	6 54.02	1.062	19 10 59.83
Frid.	9	19 22 15.62	10.897	22 6 27.4	21.37	7 19.23	1.040	19 14 56.39
Sat.	10	19 26 36.85	10.873	21 57 41.5	+22.45	7 43.90	1.016	19 18 52.95
SUN.	11	19 30 57.51	10.848	21 46 29.8	23.51	8 8.00	0.991	19 22 49.50
Mon.	12	19 35 17.56	10.822	21 38 52.6	24.57	8 31.50	0.965	19 26 46.06
Tues.	13	19 39 36.98	10.796	21 28 50.3	+25.61	8 54.36	0.939	19 30 42.62
Wed.	14	19 43 55.75	10.768	21 18 23.1	26.64	9 16.57	0.911	19 34 39.18
Thur.	15	19 48 13.85	10.739	21 7 31.4	27.65	9 38.12	0.882	19 38 35.73
Frid.	16	19 52 31.25	10.709	20 56 15.4	+28.66	9 58.96	0.852	19 42 32.29
Sat.	17	19 56 47.93	10.678	20 44 35.4	29.65	10 19.09	0.821	19 46 28.84
SUN.	18	20 1 3.88	10.647	20 32 31.9	30.63	10 38.48	0.790	19 50 25.40
Mon.	19	20 5 19.09	10.616	20 20 5.1	+31.59	10 57.13	0.759	19 54 21.96
Tues.	20	20 9 33.54	10.584	20 7 15.4	32.54	11 15.02	0.727	19 58 18.52
Wed.	21	20 13 47.22	10.552	19 54 3.2	33.47	11 32.14	0.695	20 2 15.08
Thur.	22	20 18 0.12	10.520	19 40 28.8	+34.39	11 48.48	0.663	20 6 11.64
Frid.	23	20 22 12.23	10.488	19 26 32.6	35.29	12 4.03	0.631	20 10 8.20
Sat.	24	20 26 23.54	10.455	19 12 14.9	36.18	12 18.79	0.598	20 14 4.75
SUN.	25	20 30 34.06	10.422	18 57 36.1	+37.05	12 32.75	0.565	20 18 1.31
Mon.	26	20 34 43.78	10.389	18 42 36.5	37.91	12 45.91	0.532	20 21 57.87
Tues.	27	20 38 52.71	10.356	18 27 16.6	38.74	12 58.28	0.499	20 25 54.43
Wed.	28	20 43 0.83	10.322	18 11 36.7	+39.57	13 9.85	0.465	20 29 50.98
Thur.	29	20 47 8.15	10.289	17 55 37.2	40.38	13 20.62	0.432	20 33 47.53
Frid.	30	20 51 14.67	10.255	17 39 18.4	41.18	13 30.58	0.398	20 37 44.09
Sat.	31	20 55 20.38	10.222	17 22 40.7	41.95	13 39.74	0.365	20 41 40.64
SUN.	32	20 59 25.29	10.188	S. 17 5 44.6	+42.72	13 48.10	0.331	20 45 37.19

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	1	280° 50' 32.3	50' 48.1	152.90	+ 0.50	9.9926508	+ 0.8	^h 5 ^m 15 ^s 44.21
2	2	281 51 41.9	51 57.5	152.91	0.47	9.9926538	1.8	5 11 48.30
3	3	282 52 51.8	53 7.2	152.92	0.40	9.9926591	2.7	5 7 52.39
4	4	283 54 1.9	54 17.1	152.93	+ 0.32	9.9926667	+ 3.6	5 3 56.48
5	5	284 55 12.2	55 27.3	152.93	0.21	9.9926764	4.4	5 0 0.57
6	6	285 56 22.7	56 37.6	152.94	+ 0.08	9.9926881	5.2	4 56 4.65
7	7	286 57 33.2	57 47.9	152.94	— 0.05	9.9927016	+ 6.0	4 52 8.74
8	8	287 58 43.7	58 58.1	152.93	0.18	9.9927168	6.7	4 48 12.83
9	9	288 59 54.0	60 8.3	152.92	0.30	9.9927337	7.4	4 44 16.92
10	10	290 1 4.1	1 18.3	152.92	— 0.40	9.9927523	+ 8.1	4 40 21.00
11	11	291 2 13.9	2 27.9	152.90	0.49	9.9927725	8.8	4 36 25.09
12	12	292 3 23.2	3 37.0	152.88	0.55	9.9927943	9.4	4 32 29.18
13	13	293 4 31.9	4 45.5	152.85	— 0.59	9.9928178	+10.1	4 28 33.27
14	14	294 5 40.0	5 53.4	152.82	0.60	9.9928431	10.9	4 24 37.36
15	15	295 6 47.4	7 0.6	152.79	0.57	9.9928702	11.7	4 20 41.45
16	16	296 7 54.0	8 7.1	152.76	— 0.52	9.9928992	+12.5	4 16 45.53
17	17	297 8 59.9	9 12.8	152.73	0.45	9.9929302	13.4	4 12 49.61
18	18	298 10 4.9	10 17.6	152.69	0.34	9.9929633	14.3	4 8 53.70
19	19	299 11 8.9	11 21.5	152.65	— 0.23	9.9929987	+15.3	4 4 57.79
20	20	300 12 12.0	12 24.4	152.61	— 0.10	9.9930365	16.3	4 1 1.88
21	21	301 13 14.1	13 26.4	152.57	+ 0.04	9.9930768	17.3	3 57 5.97
22	22	302 14 15.3	14 27.4	152.53	+ 0.17	9.9931196	+18.4	3 53 10.07
23	23	303 15 15.6	15 27.5	152.49	0.30	9.9931649	19.5	3 49 14.16
24	24	304 16 14.9	16 26.7	152.45	0.41	9.9932129	20.6	3 45 18.24
25	25	305 17 13.3	17 25.0	152.41	+ 0.49	9.9932637	+21.7	3 41 22.32
26	26	306 18 10.9	18 22.4	152.38	0.55	9.9933172	22.8	3 37 26.41
27	27	307 19 7.6	19 18.9	152.34	0.58	9.9933733	23.0	3 33 30.50
28	28	308 20 3.5	20 14.7	152.31	+ 0.58	9.9934318	+24.9	3 29 34.59
29	29	309 20 58.7	21 9.8	152.28	0.56	9.9934928	25.9	3 25 38.68
30	30	310 21 53.1	22 4.1	152.25	0.51	9.9935562	26.9	3 21 42.77
31	31	311 22 46.7	22 57.5	152.22	0.43	9.9936219	27.8	3 17 46.86
32	32	312 23 39.5	23 50.2	152.19	+ 0.32	9.9936897	+28.6	3 13 50.95
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 th .								Diff. for 1 Hour, — 9 ^m .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	
							h m	m	d
1	14' 48.5	14' 50.7	54' 14.2	+0.57	54' 22.2	+0.78	17 15.4	1.70	20.4
2	14 53.6	14 57.1	54 32.7	0.99	54 45.8	1.20	17 56.2	1.72	21.4
3	15 1.4	15 6.3	55 1.4	1.41	55 19.5	1.61	18 37.8	1.78	22.4
4	15 11.9	15 18.0	55 39.9	+1.79	56 2.5	+1.96	19 21.5	1.89	23.4
5	15 24.7	15 31.7	56 26.9	2.10	56 52.9	2.22	20 8.5	2.05	24.4
6	15 39.2	15 46.7	57 20.1	2.29	57 47.9	2.32	20 59.9	2.24	25.4
7	15 54.3	16 1.8	58 15.8	+2.31	58 43.3	+2.25	21 56.3	2.45	26.4
8	16 9.0	16 15.7	59 9.7	2.13	59 34.3	1.95	22 57.3	2.63	27.4
9	16 21.7	16 26.9	59 56.4	1.72	60 15.5	1.44	6		28.4
10	16 31.1	16 34.3	60 31.0	+1.13	60 42.5	+0.78	0 1.1	2.66	29.4
11	16 36.2	16 37.0	60 49.7	+0.42	60 52.5	+0.05	1 4.9	2.61	0.9
12	16 36.6	16 35.0	60 51.0	-0.30	60 45.3	-0.64	2 6.2	2.47	1.9
13	16 32.4	16 28.9	60 35.7	-0.94	60 22.7	-1.21	3 3.3	2.30	2.9
14	16 24.5	16 19.6	60 6.8	1.42	59 48.6	1.59	3 56.8	2.16	3.9
15	16 14.1	16 8.3	59 28.6	1.72	59 7.3	1.80	4 47.1	2.05	4.9
16	16 2.4	15 56.3	58 45.4	-1.84	58 23.2	-1.85	5 35.4	2.00	5.9
17	15 50.3	15 44.4	58 1.0	1.83	57 39.3	1.78	6 23.0	1.99	6.9
18	15 38.6	15 33.1	57 18.2	1.72	56 58.0	1.64	7 11.1	2.02	7.9
19	15 27.9	15 23.0	56 38.8	-1.56	56 20.7	-1.47	8 0.1	2.07	8.9
20	15 18.3	15 14.0	56 3.6	1.38	55 47.7	1.28	8 50.7	2.13	9.9
21	15 9.9	15 6.2	55 32.8	1.20	55 19.0	1.11	9 42.5	2.17	10.9
22	15 2.7	14 59.5	55 6.3	-1.01	54 54.6	-0.93	10 34.8	2.16	11.9
23	14 56.6	14 54.0	54 44.0	0.85	54 34.4	0.76	11 26.4	2.11	12.9
24	14 51.7	14 49.7	54 25.8	0.67	54 18.3	0.58	12 16.3	2.03	13.9
25	14 47.9	14 46.4	54 11.8	-0.49	54 6.5	-0.39	13 3.8	1.93	14.9
26	14 45.3	14 44.6	54 2.5	0.28	53 59.8	-0.16	13 48.8	1.83	15.9
27	14 44.3	14 44.4	53 58.6	-0.04	53 58.9	+0.10	14 31.6	1.75	16.9
28	14 44.9	14 46.0	54 1.0	+0.25	54 4.9	+0.41	15 12.8	1.70	17.9
29	14 47.6	14 49.7	54 10.7	0.56	54 18.4	0.73	15 53.1	1.68	18.9
30	14 52.4	14 55.7	54 28.3	0.93	54 40.6	1.12	16 33.7	1.72	19.9
31	14 59.7	15 4.2	54 55.1	1.31	55 11.9	1.50	17 15.5	1.79	20.9
32	15 9.4	15 15.3	55 31.0	+1.69	55 52.4	+1.87	17 59.7	1.92	21.9

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 1.					SATURDAY 3.				
0	^h 11 ^m 30 ^s 17.34	1.8977	N. 8 52 21.6	11.965	0	^h 12 ^m 57 ^s 32.42	1.8344	S. 1 12 54.0	13.013
1	11 32 6.96	1.8983	8 40 22.6	12.002	1	12 59 22.54	1.8363	1 25 55.0	13.019
2	11 33 56.50	1.8950	8 28 21.4	12.038	2	13 1 12.78	1.8382	1 38 56.3	13.024
3	11 35 45.96	1.8937	8 16 18.0	12.073	3	13 3 3.13	1.8403	1 51 57.9	13.029
4	11 37 35.34	1.8924	8 4 12.6	12.108	4	13 4 53.61	1.8425	2 4 59.8	13.033
5	11 39 24.65	1.8912	7 52 5.1	12.142	5	13 6 44.23	1.8447	2 18 1.9	13.037
6	11 41 13.89	1.8901	7 39 55.6	12.175	6	13 8 34.98	1.8470	2 31 4.2	13.039
7	11 43 3.06	1.8190	7 27 44.1	12.207	7	13 10 25.87	1.8493	2 44 6.6	13.041
8	11 44 52.17	1.8181	7 15 30.7	12.239	8	13 12 16.90	1.8517	2 57 9.1	13.042
9	11 46 41.23	1.8172	7 3 15.4	12.271	9	13 14 8.08	1.8542	3 10 11.7	13.043
10	11 48 30.23	1.8163	6 50 58.2	12.302	10	13 15 59.41	1.8569	3 23 14.3	13.042
11	11 50 19.18	1.8154	6 38 39.2	12.333	11	13 17 50.90	1.8596	3 36 16.8	13.041
12	11 52 8.08	1.8147	6 26 18.4	12.361	12	13 19 42.56	1.8623	3 49 19.2	13.039
13	11 53 56.94	1.8140	6 13 55.8	12.390	13	13 21 34.38	1.8651	4 2 21.5	13.037
14	11 55 45.76	1.8134	6 1 31.5	12.419	14	13 23 26.37	1.8680	4 15 23.6	13.033
15	11 57 34.55	1.8128	5 49 5.5	12.447	15	13 25 18.54	1.8710	4 28 25.5	13.029
16	11 59 23.30	1.8123	5 36 37.9	12.474	16	13 27 10.89	1.8741	4 41 27.1	13.024
17	12 1 12.03	1.8120	5 24 8.7	12.501	17	13 29 3.43	1.8772	4 54 28.4	13.018
18	12 3 0.74	1.8117	5 11 37.8	12.527	18	13 30 56.15	1.8804	5 7 29.3	13.012
19	12 4 49.43	1.8114	4 59 5.4	12.553	19	13 32 49.07	1.8837	5 20 29.8	13.005
20	12 6 38.11	1.8112	4 46 31.5	12.577	20	13 34 42.19	1.8871	5 33 29.9	12.997
21	12 8 26.77	1.8110	4 33 56.2	12.601	21	13 36 35.52	1.8905	5 46 29.4	12.987
22	12 10 15.43	1.8110	4 21 19.4	12.624	22	13 38 29.05	1.8940	5 59 28.3	12.977
23	12 12 4.09	1.8110	N. 4 8 41.3	12.647	23	13 40 22.80	1.8977	S. 6 12 26.7	12.967
FRIDAY 2.					SUNDAY 4.				
0	12 13 52.75	1.8110	N. 3 56 1.8	12.669	0	13 42 16.77	1.9014	S. 6 25 24.4	12.956
1	12 15 41.41	1.8110	3 43 21.0	12.691	1	13 44 10.96	1.9051	6 38 21.4	12.943
2	12 17 30.09	1.8114	3 30 38.9	12.712	2	13 46 5.38	1.9090	6 51 17.5	12.930
3	12 19 18.78	1.8117	3 17 55.6	12.733	3	13 48 0.04	1.9129	7 4 13.0	12.916
4	12 21 7.49	1.8121	3 5 11.1	12.752	4	13 49 54.93	1.9168	7 17 7.5	12.900
5	12 22 56.23	1.8125	2 52 25.4	12.772	5	13 51 50.06	1.9209	7 30 1.0	12.883
6	12 24 44.99	1.8130	2 39 38.5	12.790	6	13 53 45.44	1.9251	7 42 53.5	12.867
7	12 26 33.79	1.8136	2 26 50.6	12.808	7	13 55 41.07	1.9293	7 55 45.0	12.850
8	12 28 22.62	1.8142	2 14 1.6	12.826	8	13 57 36.96	1.9336	8 8 35.5	12.832
9	12 30 11.49	1.8149	2 1 11.6	12.842	9	13 59 33.11	1.9380	8 21 24.8	12.812
10	12 32 0.40	1.8157	1 48 20.6	12.857	10	14 1 29.52	1.9425	8 34 12.9	12.791
11	12 33 49.37	1.8166	1 35 28.7	12.872	11	14 3 26.21	1.9471	8 46 59.7	12.769
12	12 35 38.39	1.8174	1 22 35.9	12.887	12	14 5 23.17	1.9517	8 59 45.2	12.747
13	12 37 27.46	1.8184	1 9 42.3	12.902	13	14 7 20.41	1.9564	9 12 29.3	12.723
14	12 39 16.60	1.8196	0 56 47.8	12.915	14	14 9 17.94	1.9612	9 25 12.0	12.698
15	12 41 5.81	1.8208	0 43 52.5	12.928	15	14 11 15.76	1.9661	9 37 53.1	12.673
16	12 42 55.09	1.8220	0 30 56.4	12.940	16	14 13 13.87	1.9710	9 50 32.7	12.647
17	12 44 44.45	1.8232	0 17 59.7	12.951	17	14 15 12.28	1.9760	10 3 10.7	12.619
18	12 46 33.88	1.8246	N. 0 5 2.3	12.962	18	14 17 10.99	1.9811	10 15 47.0	12.590
19	12 48 23.40	1.8261	S. 0 7 55.8	12.972	19	14 19 10.01	1.9863	10 28 21.5	12.560
20	12 50 13.01	1.8276	0 20 54.4	12.982	20	14 21 9.35	1.9916	10 40 54.2	12.530
21	12 52 2.71	1.8292	0 33 53.6	12.991	21	14 23 9.00	1.9969	10 53 25.1	12.498
22	12 53 52.51	1.8308	0 46 53.3	12.996	22	14 25 8.97	2.0023	11 5 54.0	12.465
23	12 55 42.41	1.8326	0 59 53.4	13.006	23	14 27 9.27	2.0078	11 18 20.9	12.431
24	12 57 32.42	1.8344	S. 1 12 54.0	13.013	24	14 29 9.91	2.0134	S. 11 30 45.7	12.395

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
MONDAY 5.					WEDNESDAY 7.				
0	^h 14 ^m 29 ^s 9.91	2.0134	S. 11° 30' 45.7"	12.395	0	^h 16 ^m 13 ^s 27.18	2.3515	S. 20° 20' 38.0"	9.123
1	14 31 10.88	2.0190	11 43 8.3	12.359	1	16 15 48.51	2.3595	20 29 42.2	9.017
2	14 33 12.19	2.0247	11 55 28.8	12.322	2	16 18 10.32	2.3674	20 38 40.0	8.909
3	14 35 13.84	2.0304	12 7 47.0	12.283	3	16 20 32.60	2.3753	20 47 31.3	8.799
4	14 37 15.84	2.0363	12 20 2.8	12.243	4	16 22 55.36	2.3833	20 56 15.9	8.688
5	14 39 18.20	2.0422	12 32 16.2	12.202	5	16 25 18.59	2.3912	21 4 53.8	8.575
6	14 41 20.91	2.0482	12 44 27.1	12.160	6	16 27 42.30	2.3992	21 13 24.9	8.460
7	14 43 23.98	2.0543	12 56 35.4	12.117	7	16 30 6.49	2.4071	21 21 49.0	8.343
8	14 45 27.42	2.0604	13 8 41.1	12.072	8	16 32 31.15	2.4149	21 30 6.1	8.226
9	14 47 31.23	2.0667	13 20 44.1	12.027	9	16 34 56.28	2.4227	21 38 16.1	8.106
10	14 49 35.42	2.0730	13 32 44.3	11.979	10	16 37 21.88	2.4306	21 46 18.8	7.983
11	14 51 39.99	2.0793	13 44 41.6	11.930	11	16 39 47.95	2.4381	21 54 14.1	7.860
12	14 53 44.94	2.0857	13 56 35.9	11.880	12	16 42 14.49	2.4459	22 2 2.0	7.735
13	14 55 50.27	2.0922	14 8 27.2	11.829	13	16 44 41.49	2.4539	22 9 42.3	7.608
14	14 57 56.00	2.0987	14 20 15.4	11.777	14	16 47 8.96	2.4616	22 17 15.0	7.480
15	15 0 2.12	2.1054	14 32 0.5	11.724	15	16 49 36.89	2.4693	22 24 39.9	7.350
16	15 2 8.64	2.1121	14 43 42.3	11.668	16	16 52 5.28	2.4770	22 31 57.0	7.218
17	15 4 15.57	2.1188	14 55 20.7	11.613	17	16 54 34.13	2.4846	22 39 6.1	7.084
18	15 6 22.90	2.1256	15 6 55.7	11.554	18	16 57 3.43	2.4921	22 46 7.1	6.949
19	15 8 30.64	2.1325	15 18 27.2	11.495	19	16 59 33.18	2.4996	22 53 0.0	6.812
20	15 10 38.80	2.1394	15 29 55.1	11.436	20	17 2 3.38	2.5070	22 59 44.6	6.673
21	15 12 47.37	2.1463	15 41 19.4	11.373	21	17 4 34.02	2.5144	23 6 20.8	6.533
22	15 14 56.36	2.1534	15 52 39.9	11.310	22	17 7 5.10	2.5217	23 12 48.6	6.392
23	15 17 5.78	2.1605	S. 16 3 56.6	11.245	23	17 9 36.62	2.5289	S. 23 19 7.8	6.248
TUESDAY 6.					THURSDAY 8.				
0	15 19 15.62	2.1676	S. 16 15 9.3	11.178	0	17 12 8.57	2.5361	S. 23 25 18.3	6.103
1	15 21 25.89	2.1748	16 26 18.0	11.111	1	17 14 40.95	2.5432	23 31 20.1	5.966
2	15 23 36.60	2.1821	16 37 22.6	11.042	2	17 17 13.75	2.5502	23 37 13.0	5.808
3	15 25 47.75	2.1895	16 48 23.0	10.971	3	17 19 46.97	2.5571	23 42 57.0	5.658
4	15 27 59.34	2.1968	16 59 19.1	10.899	4	17 22 20.60	2.5639	23 48 31.9	5.506
5	15 30 11.37	2.2042	17 10 10.9	10.826	5	17 24 54.64	2.5706	23 53 57.7	5.352
6	15 32 23.84	2.2116	17 20 58.2	10.750	6	17 27 29.07	2.5772	23 59 14.2	5.198
7	15 34 36.76	2.2191	17 31 40.9	10.673	7	17 30 3.90	2.5838	24 4 21.4	5.042
8	15 36 50.14	2.2267	17 42 19.0	10.596	8	17 32 39.12	2.5903	24 9 19.2	4.884
9	15 39 3.97	2.2343	17 52 52.4	10.516	9	17 35 14.73	2.5967	24 14 7.5	4.725
10	15 41 18.26	2.2419	18 3 20.9	10.434	10	17 37 50.72	2.6028	24 18 46.2	4.564
11	15 43 33.00	2.2495	18 13 44.5	10.352	11	17 40 27.07	2.6089	24 23 15.2	4.402
12	15 45 48.20	2.2572	18 24 3.1	10.267	12	17 43 3.79	2.6150	24 27 34.5	4.239
13	15 48 3.87	2.2650	18 34 16.6	10.181	13	17 45 40.87	2.6208	24 31 43.9	4.074
14	15 50 20.00	2.2728	18 44 24.8	10.092	14	17 48 18.29	2.6265	24 35 43.4	3.908
15	15 52 36.60	2.2806	18 54 27.7	10.003	15	17 50 56.05	2.6322	24 39 32.9	3.741
16	15 54 53.67	2.2883	19 4 25.2	9.912	16	17 53 34.15	2.6377	24 43 12.3	3.572
17	15 57 11.20	2.2961	19 14 17.2	9.819	17	17 56 12.57	2.6430	24 46 41.5	3.402
18	15 59 29.20	2.3040	19 24 3.5	9.724	18	17 58 51.31	2.6482	24 50 0.5	3.231
19	16 1 47.68	2.3119	19 33 44.1	9.628	19	18 1 30.36	2.6533	24 53 9.2	3.058
20	16 4 6.63	2.3198	19 43 18.9	9.531	20	18 4 9.71	2.6582	24 56 7.5	2.885
21	16 6 26.05	2.3277	19 52 47.8	9.432	21	18 6 49.35	2.6631	24 58 55.4	2.711
22	16 8 45.95	2.3357	20 2 10.7	9.331	22	18 9 29.28	2.6677	25 1 32.8	2.535
23	16 11 6.33	2.3436	20 11 27.5	9.228	23	18 12 9.48	2.6722	25 3 59.6	2.357
24	16 13 27.18	2.3515	S. 20 20 38.0	9.123	24	18 14 49.94	2.6765	S. 25 6 15.7	2.179

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 9.					SUNDAY 11.				
0	^h 18 ^m 14 ^s 49.94	2.6705	S. 25° 6' 15.7"	2.179	0	^h 20 ^m 25 ^s 0.46	2.6797	S. 23° 17' 26.6"	6.067
1	18 17 30.66	2.6807	25 8 21.1	2.001	1	20 27 41.12	2.6757	23 10 41.4	6.639
2	18 20 11.63	2.6847	25 10 15.8	1.823	2	20 30 21.54	2.6716	23 3 45.9	7.009
3	18 22 52.83	2.6886	25 11 59.8	1.642	3	20 33 1.71	2.6673	22 56 40.3	7.178
4	18 25 34.26	2.6923	25 13 32.9	1.460	4	20 35 41.62	2.6629	22 49 24.6	7.346
5	18 28 15.91	2.6959	25 14 55.0	1.278	5	20 38 21.26	2.6583	22 41 58.8	7.512
6	18 30 57.77	2.6992	25 16 6.2	1.095	6	20 41 0.62	2.6537	22 34 23.1	7.677
7	18 33 39.82	2.7024	25 17 6.4	0.911	7	20 43 39.70	2.6490	22 26 37.5	7.841
8	18 36 22.06	2.7055	25 17 55.5	0.727	8	20 46 18.50	2.6442	22 18 42.2	8.003
9	18 39 4.48	2.7083	25 18 33.6	0.542	9	20 48 57.00	2.6392	22 10 37.2	8.163
10	18 41 47.06	2.7109	25 19 0.6	0.357	10	20 51 35.20	2.6341	22 2 22.6	8.323
11	18 44 29.79	2.7134	25 19 16.4	- 0.170	11	20 54 13.09	2.6289	21 53 58.4	8.482
12	18 47 12.67	2.7157	25 19 21.0	+ 0.017	12	20 56 50.67	2.6237	21 45 24.8	8.638
13	18 49 55.68	2.7179	25 19 14.4	0.204	13	20 59 27.93	2.6183	21 36 41.9	8.792
14	18 52 38.82	2.7199	25 18 56.5	0.392	14	21 2 4.87	2.6128	21 27 49.8	8.944
15	18 55 22.07	2.7217	25 18 27.4	0.579	15	21 4 41.47	2.6073	21 18 48.6	9.095
16	18 58 5.42	2.7232	25 17 47.0	0.767	16	21 7 17.74	2.6017	21 9 38.4	9.244
17	19 0 48.86	2.7246	25 16 55.3	0.956	17	21 9 53.67	2.5960	21 0 19.3	9.392
18	19 3 32.37	2.7258	25 15 52.3	1.144	18	21 12 29.26	2.5903	20 50 51.3	9.539
19	19 6 15.95	2.7268	25 14 38.0	1.333	19	21 15 4.51	2.5845	20 41 14.6	9.683
20	19 8 59.59	2.7277	25 13 12.3	1.522	20	21 17 39.40	2.5785	20 31 29.3	9.825
21	19 11 43.28	2.7284	25 11 35.3	1.712	21	21 20 13.93	2.5725	20 21 35.6	9.965
22	19 14 27.00	2.7288	25 9 46.9	1.901	22	21 22 48.10	2.5665	20 11 33.5	10.104
23	19 17 10.74	2.7292	S. 25° 7' 47.2"	2.090	23	21 25 21.91	2.5605	S. 20° 1' 23.1"	10.242
SATURDAY 10.					MONDAY 12.				
0	19 19 54.50	2.7293	S. 25° 5' 36.1"	2.279	0	21 27 55.36	2.5544	S. 19° 51' 4.5"	10.377
1	19 22 38.26	2.7299	25 3 13.7	2.468	1	21 30 28.44	2.5489	19 40 37.9	10.510
2	19 25 22.01	2.7298	25 0 40.0	2.657	2	21 33 1.14	2.5419	19 30 3.3	10.642
3	19 28 5.73	2.7294	24 57 54.9	2.846	3	21 35 33.47	2.5356	19 19 20.9	10.771
4	19 30 49.42	2.7278	24 54 58.5	3.033	4	21 38 5.42	2.5294	19 8 30.8	10.898
5	19 33 33.07	2.7271	24 51 50.9	3.221	5	21 40 36.99	2.5231	18 57 33.1	11.025
6	19 36 16.67	2.7261	24 48 32.0	3.409	6	21 43 8.19	2.5167	18 46 27.8	11.149
7	19 39 0.20	2.7249	24 45 1.8	3.596	7	21 45 39.00	2.5109	18 35 15.2	11.271
8	19 41 43.66	2.7236	24 41 20.5	3.782	8	21 48 9.42	2.5038	18 23 55.3	11.391
9	19 44 27.03	2.7220	24 37 28.0	3.968	9	21 50 39.46	2.4974	18 12 28.3	11.508
10	19 47 10.30	2.7203	24 33 24.3	4.154	10	21 53 9.11	2.4910	18 0 54.3	11.624
11	19 49 53.47	2.7185	24 29 9.5	4.339	11	21 55 38.38	2.4846	17 49 13.4	11.739
12	19 52 36.52	2.7164	24 24 43.6	4.523	12	21 58 7.26	2.4781	17 37 25.6	11.852
13	19 55 19.44	2.7142	24 20 6.7	4.707	13	22 0 35.75	2.4716	17 25 31.1	11.962
14	19 58 2.23	2.7119	24 15 18.8	4.890	14	22 3 3.85	2.4651	17 13 30.1	12.069
15	20 0 44.87	2.7093	24 10 19.9	5.072	15	22 5 31.56	2.4586	17 1 22.8	12.174
16	20 3 27.35	2.7066	24 5 10.1	5.253	16	22 7 58.88	2.4521	16 49 9.2	12.279
17	20 6 9.66	2.7037	23 59 49.5	5.433	17	22 10 25.81	2.4457	16 36 49.3	12.383
18	20 8 51.80	2.7008	23 54 18.2	5.612	18	22 12 52.36	2.4392	16 24 23.2	12.484
19	20 11 33.76	2.6977	23 48 36.1	5.791	19	22 15 18.52	2.4327	16 11 51.2	12.582
20	20 14 15.52	2.6943	23 42 43.3	5.968	20	22 17 44.29	2.4262	15 59 13.4	12.678
21	20 16 57.08	2.6909	23 36 39.9	6.145	21	22 20 9.67	2.4196	15 46 29.9	12.773
22	20 19 38.43	2.6873	23 30 25.9	6.321	22	22 22 34.67	2.4134	15 33 40.7	12.865
23	20 22 19.56	2.6836	23 24 1.4	6.494	23	22 24 59.28	2.4070	15 20 46.1	12.955
24	20 25 0.46	2.6797	S. 23° 17' 26.6"	6.667	24	22 27 23.51	2.4007	S. 15° 7' 46.1"	13.043

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 13.					THURSDAY 15.				
0	^h 22 ^m 27 ^s 23.51	2.4007	S. 15° 7' 46.1	13.043	0	^h 0 16 ^m 10.43	2.1592	S. 3° 35' 27.4	15.130
1	22 29 47.36	2.3943	14 54 40.9	13.130	1	0 18 19.70	2.1599	3 20 19.5	15.132
2	22 32 10.83	2.3880	14 41 30.5	13.215	2	0 20 28.78	2.1497	3 5 11.5	15.133
3	22 34 33.92	2.3817	14 28 15.1	13.297	3	0 22 37.67	2.1466	2 50 3.5	15.133
4	22 36 56.63	2.3754	14 14 54.8	13.378	4	0 24 46.37	2.1434	2 34 55.5	15.132
5	22 39 18.97	2.3692	14 1 29.7	13.457	5	0 26 54.88	2.1403	2 19 47.6	15.129
6	22 41 40.94	2.3631	13 48 0.0	13.533	6	0 29 3.20	2.1373	2 4 40.0	15.134
7	22 44 2.54	2.3569	13 34 25.7	13.608	7	0 31 11.35	2.1345	1 49 32.7	15.119
8	22 46 23.77	2.3508	13 20 47.0	13.681	8	0 33 19.34	2.1317	1 34 25.7	15.113
9	22 48 44.63	2.3447	13 7 4.0	13.759	9	0 35 27.16	2.1290	1 19 19.1	15.105
10	22 51 5.13	2.3387	12 53 16.8	13.821	10	0 37 34.82	2.1263	1 4 13.1	15.095
11	22 53 25.27	2.3327	12 39 25.5	13.888	11	0 39 42.32	2.1237	0 49 7.7	15.083
12	22 55 45.06	2.3268	12 25 30.2	13.953	12	0 41 49.67	2.1212	0 34 3.1	15.070
13	22 58 4.49	2.3209	12 11 31.1	14.017	13	0 43 56.87	2.1189	0 18 59.3	15.057
14	23 0 23.57	2.3151	11 57 28.2	14.078	14	0 46 3.94	2.1166	S. 0 3 56.3	15.043
15	23 2 42.31	2.3094	11 43 21.7	14.137	15	0 48 10.87	2.1143	N. 0 11 5.9	15.027
16	23 5 0.70	2.3037	11 29 11.7	14.195	16	0 50 17.66	2.1122	0 26 7.0	15.009
17	23 7 18.75	2.2980	11 14 58.3	14.252	17	0 52 24.33	2.1102	0 41 7.0	14.990
18	23 9 36.46	2.2923	11 0 41.5	14.306	18	0 54 30.88	2.1082	0 56 5.8	14.969
19	23 11 53.83	2.2867	10 46 21.5	14.358	19	0 56 37.31	2.1062	1 11 3.3	14.948
20	23 14 10.87	2.2813	10 31 58.5	14.407	20	0 58 43.63	2.1043	1 25 59.6	14.927
21	23 16 27.59	2.2760	10 17 32.6	14.456	21	1 0 49.83	2.1025	1 40 54.5	14.903
22	23 18 43.99	2.2708	10 3 3.8	14.503	22	1 2 55.93	2.1009	1 55 47.9	14.878
23	23 21 0.07	2.2653	S. 9 48 32.2	14.549	23	1 5 1.94	2.0993	N. 2 10 39.8	14.852
WEDNESDAY 14.					FRIDAY 16.				
0	23 23 15.83	2.2601	S. 9 33 57.9	14.592	0	1 7 7.85	2.0977	N. 2 25 30.1	14.894
1	23 25 31.28	2.2549	9 19 21.1	14.633	1	1 9 13.67	2.0963	2 40 18.7	14.795
2	23 27 46.42	2.2498	9 4 41.9	14.672	2	1 11 19.41	2.0950	2 55 5.5	14.765
3	23 30 1.26	2.2448	8 50 0.4	14.711	3	1 13 25.07	2.0937	3 9 50.5	14.734
4	23 32 15.80	2.2398	8 35 16.6	14.747	4	1 15 30.66	2.0925	3 24 33.6	14.702
5	23 34 30.04	2.2349	8 20 30.7	14.782	5	1 17 36.17	2.0913	3 39 14.8	14.669
6	23 36 43.99	2.2301	8 5 42.8	14.814	6	1 19 41.61	2.0902	3 53 53.9	14.634
7	23 38 57.66	2.2254	7 50 53.0	14.846	7	1 21 46.99	2.0892	4 8 30.9	14.599
8	23 41 11.04	2.2207	7 36 1.3	14.875	8	1 23 52.32	2.0883	4 23 5.8	14.562
9	23 43 24.14	2.2161	7 21 8.0	14.902	9	1 25 57.59	2.0875	4 37 38.4	14.524
10	23 45 36.97	2.2116	7 6 13.1	14.928	10	1 28 2.82	2.0867	4 52 8.7	14.485
11	23 47 49.54	2.2072	6 51 16.6	14.953	11	1 30 8.00	2.0860	5 6 36.6	14.445
12	23 50 1.84	2.2028	6 36 18.7	14.976	12	1 32 13.14	2.0853	5 21 2.1	14.404
13	23 52 13.88	2.1985	6 21 19.5	14.997	13	1 34 18.24	2.0848	5 35 25.1	14.362
14	23 54 25.66	2.1943	6 6 19.0	15.017	14	1 36 23.32	2.0844	5 49 45.5	14.318
15	23 56 37.19	2.1902	5 51 17.4	15.035	15	1 38 28.37	2.0840	6 4 3.3	14.272
16	23 58 48.48	2.1861	5 36 14.8	15.052	16	1 40 33.40	2.0836	6 18 18.3	14.228
17	0 0 59.52	2.1820	5 21 11.2	15.067	17	1 42 38.41	2.0833	6 32 30.6	14.182
18	0 3 10.32	2.1781	5 6 6.8	15.080	18	1 44 43.40	2.0831	6 46 40.1	14.131
19	0 5 20.89	2.1743	4 51 1.6	15.092	19	1 46 48.38	2.0830	7 0 46.7	14.085
20	0 7 31.24	2.1706	4 35 55.7	15.102	20	1 48 53.36	2.0830	7 14 50.3	14.035
21	0 9 41.36	2.1669	4 20 49.3	15.111	21	1 50 58.34	2.0830	7 28 50.9	13.984
22	0 11 51.26	2.1633	4 5 42.4	15.118	22	1 53 3.32	2.0830	7 42 48.4	13.932
23	0 14 0.95	2.1597	3 50 35.1	15.125	23	1 55 8.30	2.0831	7 56 42.7	13.879
24	0 16 10.43	2.1562	S. 3 35 27.4	15.130	24	1 57 13.29	2.0832	N. 8 10 33.9	13.826

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 17.					MONDAY 19.				
0	1 ^h 57 ^m 13.29	2.0633	N. 8° 10' 33.9"	13.896	0	3 ^h 38 ^m 30.21	2.1533	N. 17° 53' 55.4"	10.137
1	1 59 18.30	2.0636	8 24 21.8	13.771	1	3 40 39.48	2.1556	18 4 0.7	10.039
2	2 1 23.33	2.0639	8 38 6.4	13.714	2	3 42 48.88	2.1579	18 14 0.1	9.940
3	2 3 28.37	2.0642	8 51 47.5	13.657	3	3 44 58.43	2.1603	18 23 53.5	9.840
4	2 5 33.44	2.0647	9 5 25.2	13.599	4	3 47 8.12	2.1626	18 33 40.9	9.740
5	2 7 38.54	2.0653	9 18 59.4	13.541	5	3 49 17.94	2.1649	18 43 22.3	9.640
6	2 9 43.68	2.0660	9 32 30.1	13.483	6	3 51 27.90	2.1672	18 52 57.7	9.538
7	2 11 48.86	2.0666	9 45 57.2	13.420	7	3 53 38.00	2.1695	19 2 26.9	9.435
8	2 13 54.07	2.0672	9 59 20.5	13.358	8	3 55 48.24	2.1719	19 11 49.9	9.332
9	2 15 59.32	2.0679	10 12 40.1	13.295	9	3 57 58.63	2.1743	19 21 6.7	9.228
10	2 18 4.62	2.0688	10 25 55.9	13.232	10	4 0 9.16	2.1767	19 30 17.3	9.123
11	2 20 9.98	2.0697	10 39 7.9	13.167	11	4 2 19.83	2.1790	19 39 21.5	9.018
12	2 22 15.39	2.0906	10 52 15.9	13.106	12	4 4 30.64	2.1813	19 48 19.4	8.912
13	2 24 20.85	2.0916	11 5 19.9	13.033	13	4 6 41.59	2.1837	19 57 10.9	8.805
14	2 26 26.38	2.0927	11 18 19.9	12.967	14	4 8 52.68	2.1861	20 5 56.0	8.697
15	2 28 31.97	2.0938	11 31 15.9	12.899	15	4 11 3.92	2.1885	20 14 34.6	8.589
16	2 30 37.63	2.0949	11 44 7.8	12.829	16	4 13 15.30	2.1908	20 23 6.7	8.480
17	2 32 43.36	2.0961	11 56 55.4	12.758	17	4 15 26.81	2.1931	20 31 32.2	8.370
18	2 34 49.16	2.0973	12 9 38.7	12.686	18	4 17 38.47	2.1955	20 39 51.1	8.260
19	2 36 55.04	2.0987	12 22 17.7	12.614	19	4 19 50.27	2.1978	20 48 3.4	8.149
20	2 39 1.00	2.1000	12 34 52.4	12.542	20	4 22 2.20	2.2000	20 56 9.0	8.038
21	2 41 7.04	2.1014	12 47 22.7	12.468	21	4 24 14.27	2.2023	21 4 7.9	7.926
22	2 43 13.17	2.1029	12 59 48.5	12.392	22	4 26 26.48	2.2046	21 12 0.1	7.812
23	2 45 19.39	2.1043	N. 13° 12' 9.7"	12.316	23	4 28 38.82	2.2068	N. 21° 19' 45.4"	7.698
SUNDAY 18.					TUESDAY 20.				
0	2 47 25.69	2.1058	N. 13° 24' 26.4"	12.240	0	4 30 51.29	2.2089	N. 21° 27' 23.9"	7.584
1	2 49 32.09	2.1075	13 36 38.5	12.162	1	4 33 3.89	2.2112	21 34 55.5	7.469
2	2 51 38.59	2.1091	13 48 45.8	12.083	2	4 35 16.63	2.2134	21 42 20.2	7.354
3	2 53 45.18	2.1108	14 0 48.4	12.003	3	4 37 29.50	2.2156	21 49 38.0	7.238
4	2 55 51.88	2.1125	14 12 46.2	11.923	4	4 39 42.50	2.2177	21 56 48.8	7.122
5	2 57 58.68	2.1142	14 24 39.1	11.842	5	4 41 55.63	2.2198	22 3 52.6	7.005
6	3 0 5.58	2.1159	14 36 27.2	11.760	6	4 44 8.88	2.2218	22 10 49.4	6.887
7	3 2 12.59	2.1177	14 48 10.3	11.677	7	4 46 22.25	2.2239	22 17 39.1	6.768
8	3 4 19.71	2.1196	14 59 48.4	11.592	8	4 48 35.75	2.2260	22 24 21.6	6.649
9	3 6 26.95	2.1216	15 11 21.4	11.507	9	4 50 49.37	2.2280	22 30 57.0	6.530
10	3 8 34.30	2.1235	15 22 49.3	11.422	10	4 53 3.11	2.2299	22 37 25.2	6.410
11	3 10 41.77	2.1254	15 34 12.0	11.336	11	4 55 16.96	2.2318	22 43 46.2	6.290
12	3 12 49.35	2.1273	15 45 29.6	11.249	12	4 57 30.93	2.2337	22 50 0.0	6.169
13	3 14 57.05	2.1294	15 56 41.9	11.161	13	4 59 45.01	2.2356	22 56 6.5	6.048
14	3 17 4.88	2.1315	16 7 48.9	11.072	14	5 1 59.20	2.2374	23 2 5.7	5.926
15	3 19 12.83	2.1336	16 18 50.5	10.982	15	5 4 13.49	2.2391	23 7 57.6	5.803
16	3 21 20.91	2.1357	16 29 46.7	10.891	16	5 6 27.89	2.2408	23 13 42.1	5.680
17	3 23 29.11	2.1378	16 40 37.4	10.799	17	5 8 42.39	2.2425	23 19 19.2	5.557
18	3 25 37.44	2.1399	16 51 22.6	10.707	18	5 10 56.99	2.2442	23 24 48.9	5.433
19	3 27 45.90	2.1421	17 2 2.3	10.614	19	5 13 11.69	2.2457	23 30 11.1	5.308
20	3 29 54.49	2.1443	17 12 36.3	10.520	20	5 15 26.48	2.2472	23 35 25.9	5.184
21	3 32 3.22	2.1466	17 23 4.7	10.426	21	5 17 41.36	2.2487	23 40 33.2	5.059
22	3 34 12.08	2.1488	17 33 27.4	10.330	22	5 19 56.33	2.2502	23 45 33.0	4.933
23	3 36 21.08	2.1511	17 43 44.3	10.234	23	5 22 11.38	2.2516	23 50 25.2	4.808
24	3 38 30.21	2.1533	N. 17° 53' 55.4"	10.137	24	5 24 26.52	2.2530	N. 23° 55' 9.9"	4.682

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 21.					FRIDAY 23.				
0	5 24 26.52	2.2530	N.23° 55' 9.9"	4.682	0	7 12 54.78	2.2298	N.25° 11' 3.5"	1.517
1	5 26 41.74	2.2542	23 59 47.0	4.555	1	7 15 9.11	2.2278	25 9 28.7	1.643
2	5 28 57.03	2.2554	24 4 16.5	4.428	2	7 17 23.32	2.2257	25 7 46.3	1.769
3	5 31 12.39	2.2566	24 8 38.4	4.301	3	7 19 37.40	2.2236	25 5 56.4	1.894
4	5 33 27.82	2.2577	24 12 52.6	4.174	4	7 21 51.35	2.2214	25 3 59.0	2.019
5	5 35 43.31	2.2588	24 16 59.2	4.046	5	7 24 5.17	2.2292	25 1 54.1	2.143
6	5 37 58.87	2.2598	24 20 58.1	3.917	6	7 26 18.85	2.2268	24 59 41.8	2.267
7	5 40 14.49	2.2607	24 24 49.3	3.789	7	7 28 32.39	2.2244	24 57 22.1	2.390
8	5 42 30.16	2.2616	24 28 32.8	3.661	8	7 30 45.78	2.2219	24 54 55.0	2.513
9	5 44 45.88	2.2624	24 32 8.6	3.532	9	7 32 59.02	2.2193	24 52 20.5	2.636
10	5 47 1.65	2.2632	24 35 36.7	3.403	10	7 35 12.10	2.2168	24 49 38.7	2.758
11	5 49 17.46	2.2638	24 38 57.0	3.273	11	7 37 25.03	2.2142	24 46 49.6	2.879
12	5 51 33.31	2.2644	24 42 9.5	3.143	12	7 39 37.80	2.2114	24 43 53.2	3.000
13	5 53 49.19	2.2650	24 45 14.2	3.014	13	7 41 50.40	2.2087	24 40 49.6	3.120
14	5 56 5.11	2.2656	24 48 11.2	2.885	14	7 44 2.84	2.2059	24 37 38.8	3.240
15	5 58 21.06	2.2660	24 51 0.4	2.756	15	7 46 15.11	2.2030	24 34 20.8	3.360
16	6 0 37.03	2.2663	24 53 41.8	2.626	16	7 48 27.20	2.2001	24 30 55.6	3.479
17	6 2 53.01	2.2665	24 56 15.4	2.494	17	7 50 39.12	2.1972	24 27 23.3	3.597
18	6 5 9.01	2.2667	24 58 41.1	2.363	18	7 52 50.86	2.1941	24 23 43.9	3.715
19	6 7 25.02	2.2669	25 0 59.0	2.233	19	7 55 2.41	2.1910	24 19 57.5	3.832
20	6 9 41.04	2.2670	25 3 9.1	2.103	20	7 57 13.78	2.1879	24 16 4.1	3.948
21	6 11 57.06	2.2670	25 5 11.4	1.973	21	7 59 24.96	2.1847	24 12 3.7	4.064
22	6 14 13.08	2.2669	25 7 5.8	1.842	22	8 1 35.95	2.1815	24 7 56.4	4.179
23	6 16 29.09	2.2668	N.25° 8 52.4	1.711	23	8 3 46.74	2.1782	N.24° 3 42.2	4.294
THURSDAY 22.					SATURDAY 24.				
0	6 18 45.10	2.2666	N.25° 10 31.1	1.589	0	8 5 57.33	2.1748	N.23° 59 21.1	4.408
1	6 21 1.09	2.2663	25 12 2.0	1.459	1	8 8 7.72	2.1715	23 54 53.2	4.522
2	6 23 17.06	2.2660	25 13 25.1	1.319	2	8 10 17.91	2.1681	23 50 18.5	4.634
3	6 25 33.01	2.2656	25 14 40.3	1.188	3	8 12 27.89	2.1647	23 45 37.1	4.746
4	6 27 48.93	2.2651	25 15 47.7	1.058	4	8 14 37.67	2.1612	23 40 49.0	4.857
5	6 30 4.82	2.2645	25 16 47.3	0.928	5	8 16 47.23	2.1576	23 35 54.3	4.968
6	6 32 20.67	2.2638	25 17 39.1	0.798	6	8 18 56.58	2.1540	23 30 52.9	5.078
7	6 34 36.48	2.2631	25 18 23.1	0.667	7	8 21 5.71	2.1504	23 25 44.9	5.187
8	6 36 52.24	2.2624	25 18 59.2	0.537	8	8 23 14.63	2.1468	23 20 30.4	5.295
9	6 39 7.96	2.2616	25 19 27.5	0.407	9	8 25 23.33	2.1431	23 15 9.5	5.403
10	6 41 23.63	2.2606	25 19 48.0	0.277	10	8 27 31.81	2.1394	23 9 42.1	5.510
11	6 43 39.23	2.2595	25 20 0.8	0.148	11	8 29 40.06	2.1357	23 4 8.3	5.616
12	6 45 54.77	2.2584	25 20 5.8	+ 0.018	12	8 31 48.09	2.1319	22 58 28.2	5.721
13	6 48 10.24	2.2573	25 20 3.0	- 0.112	13	8 33 55.89	2.1281	22 52 41.8	5.826
14	6 50 25.64	2.2561	25 19 52.4	0.241	14	8 36 3.46	2.1244	22 46 49.1	5.931
15	6 52 40.97	2.2548	25 19 34.1	0.369	15	8 38 10.81	2.1206	22 40 50.1	6.035
16	6 54 56.22	2.2534	25 19 8.1	0.498	16	8 40 17.93	2.1167	22 34 44.9	6.137
17	6 57 11.38	2.2519	25 18 34.4	0.627	17	8 42 24.81	2.1127	22 28 33.6	6.239
18	6 59 26.45	2.2504	25 17 52.9	0.756	18	8 44 31.45	2.1087	22 22 16.2	6.341
19	7 1 41.43	2.2488	25 17 3.7	0.883	19	8 46 37.86	2.1048	22 15 52.7	6.441
20	7 3 56.31	2.2472	25 16 6.9	1.010	20	8 48 44.03	2.1009	22 9 23.3	6.539
21	7 6 11.09	2.2455	25 15 2.5	1.138	21	8 50 49.97	2.0970	22 2 48.0	6.638
22	7 8 25.77	2.2437	25 13 50.4	1.265	22	8 52 55.67	2.0930	21 56 6.8	6.736
23	7 10 40.33	2.2418	25 12 30.7	1.391	23	8 55 1.13	2.0890	21 49 19.7	6.833
24	7 12 54.78	2.2398	N.25° 11 3.5	1.517	24	8 57 6.35	2.0850	N.21° 42 26.8	6.930

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 25.					TUESDAY 27.				
0	h m s	s	N. 21° 42' 26.8"	6.930	0	h m s	s	N. 14° 34' 23.8"	10.590
1	8 57 6.35	2.0850	21 35 28.1	7.025	1	10 32 36.80	1.9010	14 23 46.7	10.647
2	8 59 11.33	2.0810	21 28 23.8	7.119	2	10 34 30.76	1.8978	14 13 6.2	10.703
3	9 1 16.07	2.0769	21 21 13.8	7.213	3	10 36 24.53	1.8946	14 2 22.3	10.758
4	9 3 20.56	2.0728	21 13 58.2	7.307	4	10 38 18.11	1.8914	13 51 35.2	10.812
5	9 5 24.81	2.0688	21 6 37.0	7.399	5	10 40 11.50	1.8882	13 40 44.9	10.866
6	9 7 28.82	2.0647	20 59 10.3	7.491	6	10 42 4.70	1.8852	13 29 51.3	10.918
7	9 9 32.58	2.0607	20 51 38.1	7.582	7	10 43 57.72	1.8822	13 18 54.6	10.970
8	9 11 36.10	2.0566	20 44 0.5	7.671	8	10 45 50.56	1.8792	13 7 54.9	11.041
9	9 13 39.37	2.0525	20 36 17.6	7.760	9	10 47 43.22	1.8762	12 56 52.1	11.072
10	9 15 42.40	2.0485	20 28 29.3	7.849	10	10 49 35.71	1.8734	12 45 46.3	11.122
11	9 17 45.19	2.0444	20 20 35.7	7.936	11	10 51 28.03	1.8706	12 34 37.5	11.171
12	9 19 47.73	2.0403	20 12 37.0	8.022	12	10 53 20.18	1.8678	12 23 25.8	11.218
13	9 21 50.03	2.0362	20 4 33.1	8.108	13	10 55 12.16	1.8650	12 12 11.3	11.265
14	9 23 52.08	2.0322	19 56 24.1	8.193	14	10 57 3.98	1.8623	12 0 54.0	11.312
15	9 25 53.89	2.0282	19 48 9.9	8.278	15	10 58 55.64	1.8596	11 49 33.8	11.359
16	9 27 55.46	2.0242	19 39 50.7	8.361	16	11 0 47.13	1.8569	11 38 10.9	11.403
17	9 29 56.79	2.0201	19 31 26.6	8.443	17	11 2 38.47	1.8544	11 26 45.4	11.447
18	9 31 57.87	2.0160	19 22 57.6	8.524	18	11 4 29.66	1.8520	11 15 17.2	11.491
19	9 33 58.71	2.0120	19 14 23.7	8.605	19	11 6 20.71	1.8496	11 3 46.4	11.534
20	9 35 59.31	2.0080	19 5 45.0	8.685	20	11 8 11.61	1.8471	10 52 13.1	11.576
21	9 37 59.67	2.0040	18 57 1.5	8.764	21	11 10 2.36	1.8447	10 40 37.3	11.618
22	9 39 59.79	2.0000	18 48 13.3	8.842	22	11 11 52.97	1.8423	10 28 59.0	11.659
23	9 41 59.67	1.9960	N. 18° 39' 20.4"	8.920	23	11 13 43.44	1.8401	N. 10° 17' 18.2"	11.700
24	9 43 59.31	1.9920				11 15 33.78	1.8379		
MONDAY 26.					WEDNESDAY 28.				
0	9 45 58.71	1.9881	N. 18° 30' 22.9"	8.997	0	11 17 23.99	1.8358	N. 10° 5' 35.0"	11.739
1	9 47 57.88	1.9842	18 21 20.8	9.079	1	11 19 14.07	1.8337	9 53 49.5	11.778
2	9 49 56.81	1.9803	18 12 14.2	9.147	2	11 21 4.03	1.8316	9 42 1.7	11.816
3	9 51 55.51	1.9764	18 3 3.1	9.222	3	11 22 53.86	1.8296	9 30 11.6	11.853
4	9 53 53.98	1.9725	17 53 47.6	9.295	4	11 24 43.58	1.8277	9 18 19.3	11.889
5	9 55 52.21	1.9686	17 44 27.7	9.367	5	11 26 33.18	1.8258	9 6 24.9	11.924
6	9 57 50.21	1.9648	17 35 3.5	9.439	6	11 28 22.67	1.8239	8 54 28.4	11.959
7	9 59 47.98	1.9610	17 25 35.0	9.510	7	11 30 12.05	1.8222	8 42 29.8	11.994
8	10 1 45.53	1.9573	17 16 2.3	9.580	8	11 32 1.33	1.8204	8 30 29.1	12.028
9	10 3 42.86	1.9536	17 6 25.4	9.649	9	11 33 50.50	1.8187	8 18 26.4	12.062
10	10 5 39.96	1.9498	16 56 44.4	9.717	10	11 35 39.57	1.8171	8 6 21.7	12.094
11	10 7 36.84	1.9461	16 46 59.3	9.785	11	11 37 28.55	1.8156	7 54 15.1	12.126
12	10 9 33.49	1.9424	16 37 10.2	9.852	12	11 39 17.44	1.8141	7 42 6.6	12.157
13	10 11 29.92	1.9388	16 27 17.1	9.918	13	11 41 6.24	1.8127	7 29 56.2	12.187
14	10 13 26.14	1.9352	16 17 20.1	9.983	14	11 42 54.96	1.8113	7 17 44.1	12.217
15	10 15 22.15	1.9317	16 7 19.1	10.048	15	11 44 43.60	1.8100	7 5 30.2	12.246
16	10 17 17.94	1.9281	15 57 14.3	10.111	16	11 46 32.16	1.8087	6 53 14.6	12.274
17	10 19 13.52	1.9245	15 47 5.8	10.174	17	11 48 20.64	1.8074	6 40 57.3	12.302
18	10 21 8.88	1.9210	15 36 53.5	10.236	18	11 50 9.05	1.8063	6 28 38.3	12.330
19	10 23 4.01	1.9176	15 26 37.5	10.297	19	11 51 57.40	1.8053	6 16 17.7	12.356
20	10 24 58.90	1.9142	15 16 17.9	10.357	20	11 53 45.69	1.8042	6 3 55.6	12.381
21	10 26 53.74	1.9108	15 5 54.6	10.417	21	11 55 33.91	1.8032	5 51 32.0	12.406
22	10 28 48.29	1.9075	14 55 27.8	10.476	22	11 57 22.08	1.8024	5 39 6.9	12.430
23	10 30 42.64	1.9042	14 44 57.5	10.533	23	11 59 10.20	1.8016	5 26 40.4	12.454
24	10 32 36.80	1.9010	N. 14° 34' 23.8"	10.590	24	12 0 58.27	1.8008	N. 5° 14' 12.4"	12.477

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 29.					SATURDAY 31.				
0	12 0 58.27	1.8008	N. 5 14 12.4	12.477	0	13 27 45.61	1.8418	S. 4 58 47.9	12.807
1	12 2 46.30	1.8001	5 1 43.1	12.499	1	13 29 36.20	1.8445	5 11 36.1	12.797
2	12 4 34.28	1.7993	4 49 12.5	12.521	2	13 31 26.95	1.8471	5 24 23.6	12.786
3	12 6 22.22	1.7987	4 36 40.5	12.543	3	13 33 17.85	1.8498	5 37 10.4	12.774
4	12 8 10.13	1.7983	4 24 7.3	12.563	4	13 35 8.92	1.8526	5 49 56.5	12.762
5	12 9 58.02	1.7979	4 11 32.9	12.583	5	13 37 0.16	1.8555	6 2 41.9	12.750
6	12 11 45.88	1.7975	3 58 57.4	12.602	6	13 38 51.58	1.8585	6 15 26.5	12.736
7	12 13 33.72	1.7973	3 46 20.7	12.621	7	13 40 43.18	1.8615	6 28 10.2	12.721
8	12 15 21.54	1.7969	3 33 42.9	12.638	8	13 42 34.96	1.8646	6 40 53.0	12.706
9	12 17 9.34	1.7966	3 21 4.1	12.655	9	13 44 26.93	1.8677	6 53 34.9	12.690
10	12 18 57.13	1.7965	3 8 24.3	12.672	10	13 46 19.09	1.8710	7 6 15.8	12.673
11	12 20 44.92	1.7965	2 55 43.5	12.688	11	13 48 11.45	1.8744	7 18 55.6	12.655
12	12 22 32.71	1.7965	2 43 1.7	12.704	12	13 50 4.02	1.8778	7 31 34.4	12.637
13	12 24 20.50	1.7965	2 30 19.0	12.718	13	13 51 56.79	1.8812	7 44 12.1	12.617
14	12 26 8.29	1.7966	2 17 35.5	12.732	14	13 53 49.77	1.8848	7 56 48.5	12.597
15	12 27 56.09	1.7968	2 4 51.2	12.745	15	13 55 42.97	1.8885	8 9 23.7	12.576
16	12 29 43.91	1.7971	1 52 6.1	12.757	16	13 57 36.39	1.8922	8 21 57.6	12.554
17	12 31 31.74	1.7974	1 39 20.3	12.769	17	13 59 30.03	1.8959	8 34 30.2	12.532
18	12 33 19.59	1.7977	1 26 33.8	12.781	18	14 1 23.90	1.8998	8 47 1.4	12.508
19	12 35 7.47	1.7982	1 13 46.6	12.792	19	14 3 18.01	1.9037	8 59 31.2	12.483
20	12 36 55.38	1.7987	1 0 58.8	12.801	20	14 5 12.35	1.9077	9 11 59.4	12.458
21	12 38 43.32	1.7993	0 48 10.5	12.810	21	14 7 6.93	1.9118	9 24 26.1	12.433
22	12 40 31.30	1.8000	0 35 21.6	12.819	22	14 9 1.76	1.9160	9 36 51.2	12.405
23	12 42 19.32	1.8007	N. 0 22 32.2	12.827	23	14 10 56.85	1.9202	S. 9 49 14.7	12.377
FRIDAY 30.					SUNDAY, FEBRUARY 1.				
0	12 44 7.38	1.8014	N. 0 9 42.3	12.835	0	14 12 52.19	1.9245	S. 10 1 36.5	12.348
1	12 45 55.49	1.8023	S. 0 3 8.0	12.842					
2	12 47 43.66	1.8033	0 15 58.7	12.847					
3	12 49 31.89	1.8043	0 28 49.7	12.852					
4	12 51 20.18	1.8054	0 41 41.0	12.857					
5	12 53 8.54	1.8066	0 54 32.6	12.862					
6	12 54 56.97	1.8078	1 7 24.4	12.865					
7	12 56 45.47	1.8090	1 20 16.4	12.867					
8	12 58 34.05	1.8104	1 33 8.5	12.869					
9	13 0 22.72	1.8118	1 46 0.7	12.871					
10	13 2 11.47	1.8132	1 58 53.0	12.872					
11	13 4 0.31	1.8148	2 11 45.3	12.873					
12	13 5 49.25	1.8165	2 24 37.6	12.871					
13	13 7 38.29	1.8183	2 37 29.8	12.869					
14	13 9 27.44	1.8201	2 50 21.9	12.867					
15	13 11 16.70	1.8219	3 3 13.9	12.865					
16	13 13 6.07	1.8237	3 16 5.7	12.861					
17	13 14 55.55	1.8257	3 28 57.2	12.857					
18	13 16 45.15	1.8278	3 41 48.5	12.852					
19	13 18 34.88	1.8300	3 54 39.5	12.847					
20	13 20 24.75	1.8323	4 7 30.1	12.840					
21	13 22 14.75	1.8345	4 20 20.3	12.832					
22	13 24 4.89	1.8369	4 33 10.0	12.824					
23	13 25 55.18	1.8393	4 45 59.2	12.816					
24	13 27 45.61	1.8418	S. 4 58 47.9	12.807					
PHASES OF THE MOON.									

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
1	Pollux W.	57 38 6	3076	59 6 45	3071	60 35 30	3066	62 4 21	3061
	Regulus W.	21 50 43	3160	23 17 40	3145	24 44 55	3132	26 12 26	3119
	Spica E.	33 24 19	3153	31 57 13	3156	30 30 11	3160	29 3 14	3164
	Venus E.	75 35 52	3183	74 9 22	3181	72 42 50	3178	71 16 15	3174
	Antares E.	79 3 55	3083	77 35 25	3078	76 6 49	3074	74 38 8	3069
	Sun E.	111 4 28	3457	109 43 16	3454	108 22 0	3448	107 0 38	3443
2	Pollux W.	69 30 23	3027	71 0 2	3030	72 29 50	3011	73 59 49	3002
	Regulus W.	33 33 40	3062	35 2 36	3052	36 31 45	3040	38 1 8	3029
	Venus E.	64 2 5	3151	62 34 57	3145	61 7 42	3138	59 40 19	3131
	Antares E.	67 13 3	3039	65 43 38	3032	64 14 5	3024	62 44 22	3016
	Sun E.	100 12 4	3408	98 49 56	3400	97 27 39	3390	96 5 11	3380
3	Pollux W.	81 32 42	2950	83 3 57	2930	84 35 26	2927	86 7 11	2915
	Regulus W.	45 31 38	2969	47 2 30	2956	48 33 38	2942	50 5 3	2930
	Saturn W.	26 38 47	2970	28 9 37	2955	29 40 46	2942	31 12 12	2927
	Venus E.	52 21 4	3089	50 52 41	3080	49 24 7	3070	47 55 21	3060
	Antares E.	55 13 3	2969	53 42 11	2958	52 11 5	2947	50 39 46	2936
	Sun E.	89 9 56	3325	87 46 13	3313	86 22 16	3300	84 58 4	3287
4	Pollux W.	93 50 2	2846	95 23 30	2831	96 57 17	2816	98 31 24	2801
	Regulus W.	57 46 30	2857	59 19 44	2842	60 53 18	2826	62 27 12	2810
	Saturn W.	38 54 7	2850	40 27 30	2835	42 1 13	2818	43 35 18	2801
	Venus E.	40 28 10	3003	38 58 1	2992	37 27 38	2979	35 56 59	2967
	Antares E.	42 59 31	2876	41 26 42	2864	39 53 37	2852	38 20 16	2838
	Sun E.	77 52 57	3212	76 27 2	3196	75 0 48	3180	73 34 15	3163
5	Regulus W.	70 22 5	2725	71 58 11	2708	73 34 40	2690	75 11 33	2672
	Saturn W.	51 31 10	2716	53 7 29	2698	54 44 12	2680	56 21 19	2662
	Spica W.	17 7 56	2992	18 38 19	2932	20 9 57	2881	21 42 40	2836
	Venus E.	19 19 57	2909	26 47 50	2898	25 15 29	2889	23 42 56	2880
	Sun E.	66 16 17	3074	64 47 36	3056	63 18 32	3038	61 49 6	3018
6	Regulus W.	83 22 6	2580	85 1 28	2562	86 41 15	2543	88 21 28	2525
	Saturn W.	64 33 6	2569	66 12 44	2550	67 52 48	2532	69 33 17	2512
	Spica W.	29 39 8	2666	31 16 33	2638	32 54 36	2612	34 33 15	2587
	Sun E.	54 15 54	2921	52 44 2	2901	51 11 45	2882	49 39 3	2862
7	Regulus W.	96 49 2	2432	98 31 51	2415	100 15 5	2396	101 58 45	2379
	Spica W.	42 54 49	2472	44 36 42	2450	46 19 6	2429	48 2 0	2409
	Sun E.	41 49 15	2766	40 14 3	2747	38 38 26	2729	37 2 25	2710
8	Spica W.	56 43 30	2314	58 29 9	2296	60 15 14	2280	62 1 43	2263
	Sun E.	28 56 30	2629	27 18 14	2615	25 39 40	2602	24 0 48	2591
11	Sun W.	12 33 44	2454	14 16 2	2434	15 58 48	2417	17 41 59	2402
	α Pegasi E.	53 28 57	2729	51 52 56	2764	50 17 41	2804	48 43 18	2849
	α Arietis E.	93 46 17	2153	91 56 39	2151	90 6 58	2150	88 17 15	2149
12	Sun W.	26 21 25	2377	28 5 33	2378	29 49 39	2380	31 33 42	2384
	α Arietis E.	79 9 1	2163	77 19 37	2168	75 30 21	2174	73 41 15	2181
	Aldebaran E.	109 36 21	2060	107 44 20	2064	105 52 25	2068	104 0 36	2072

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Pollux W.	63° 33' 18"	3056	65° 2' 22"	3049	66° 31' 34"	3043	68° 0' 54"	3035
	Regulus W.	27 40 13	3107	29 8 14	3096	30 36 29	3084	32 4 58	3073
	Spica E.	27 36 22	3171	26 9 38	3178	24 43 3	3189	23 16 41	3204
	Venus E.	69 49 35	3171	68 22 51	3166	66 56 1	3182	65 29 6	3157
	Antares E.	73 9 21	3064	71 40 27	3059	70 11 27	3052	68 42 19	3046
	Sun E.	105 39 10	3437	104 17 35	3431	102 55 53	3423	101 34 3	3415
2	Pollux W.	75 29 59	2993	77 0 21	2983	78 30 55	2973	80 1 42	2962
	Regulus W.	39 30 45	3018	41 0 36	3005	42 30 42	2994	44 1 2	2981
	Venus E.	58 12 47	3124	56 45 6	3116	55 17 16	3107	53 49 15	3099
	Antares E.	61 14 29	3007	59 44 25	2998	58 14 10	2989	56 43 43	2978
	Sun E.	94 42 32	3371	93 19 42	3359	91 56 39	3349	90 33 24	3338
3	Pollux W.	87 39 11	2901	89 11 28	2888	90 44 2	2875	92 16 53	2861
	Regulus W.	51 36 44	2916	53 8 43	2901	54 41 0	2887	56 13 35	2872
	Saturn W.	32 43 57	2912	34 16 0	2897	35 48 23	2882	37 21 5	2866
	Venus E.	46 26 22	3049	44 57 10	3038	43 27 44	3026	41 58 4	3015
	Antares E.	49 8 13	2924	47 36 25	2912	46 4 22	2901	44 32 4	2889
	Sun E.	83 33 37	3272	82 8 53	3258	80 43 52	3242	79 18 33	3228
4	Pollux W.	100 5 51	2785	101 40 38	2769	103 15 47	2753	104 51 17	2735
	Regulus W.	64 1 27	2793	65 36 4	2777	67 11 2	2760	68 46 22	2743
	Saturn W.	45 9 44	2785	46 44 32	2768	48 19 42	2750	49 55 15	2734
	Venus E.	34 26 5	2954	32 54 55	2942	31 23 30	2931	29 51 50	2920
	Antares E.	36 46 38	2896	35 12 44	2815	33 38 35	2803	32 4 11	2792
	Sun E.	72 7 22	3146	70 40 8	3128	69 12 32	3111	67 44 36	3092
5	Regulus W.	76 48 51	2654	78 26 33	2636	80 4 30	2618	81 43 10	2599
	Saturn W.	57 58 50	2643	59 36 46	2625	61 15 7	2606	62 53 54	2588
	Spica W.	23 16 21	2795	24 50 55	2760	26 26 16	2725	28 2 22	2695
	Venus E.	22 10 11	2873	20 37 18	2869	19 4 20	2871	17 31 24	2882
	Sun E.	60 19 16	2968	58 49 1	2980	57 18 23	2961	55 47 21	2941
6	Regulus W.	90 2 7	2506	91 43 12	2487	93 24 43	2469	95 6 40	2451
	Saturn W.	71 14 13	2494	72 55 35	2475	74 37 23	2456	76 19 38	2438
	Spica W.	36 12 28	2562	37 52 15	2538	39 32 35	2516	41 13 26	2493
	Sun E.	48 5 55	2843	46 32 23	2824	44 58 26	2804	43 24 3	2785
7	Regulus W.	103 42 50	2361	105 27 21	2344	107 12 16	2327	108 57 36	2311
	Spica W.	49 45 22	2389	51 29 13	2370	53 13 31	2350	54 58 17	2332
	Sun E.	35 25 59	2694	33 49 10	2676	32 11 58	2660	30 34 25	2644
8	Spica W.	63 48 37	2247	65 35 54	2232	67 23 34	2217	69 11 36	2202
	Sun E.	22 21 40	2580	20 42 18	2573	19 2 46	2567	17 23 6	2564
11	Sun W.	19 25 31	2392	21 9 17	2384	22 53 14	2380	24 37 18	2378
	α Pegasi E.	47 9 54	2901	45 37 36	2959	44 6 32	3026	42 36 51	3102
	α Arietis E.	86 27 31	2150	84 37 48	2152	82 48 8	2155	80 58 32	2158
12	Sun W.	33 17 40	2388	35 1 32	2392	36 45 18	2398	38 28 56	2405
	α Arietis E.	71 52 19	2190	70 3 36	2198	68 15 6	2208	66 26 51	2220
	Aldebaran E.	102 8 54	2078	100 17 21	2083	98 25 56	2090	96 34 41	2097

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
13	Sun	W.	40° 12' 24"	2412	41° 55' 42"	2430	43° 38' 48"	2439	45° 21' 42"	2438
	α Arietis	E.	64 38 53	2232	62 51 13	2245	61 3 52	2259	59 16 52	2274
	Aldebaran	E.	94 43 37	2105	92 52 45	2113	91 2 5	2122	89 11 39	2131
14	Sun	W.	53 52 40	2492	55 34 5	2504	57 15 12	2516	58 56 3	2530
	α Arietis	E.	50 28 4	2368	48 43 44	2391	46 59 57	2417	45 16 46	2443
	Aldebaran	E.	80 3 13	2184	78 14 21	2196	76 25 47	2208	74 37 32	2220
15	Sun	W.	67 15 38	2599	68 54 35	2612	70 33 13	2627	72 11 31	2641
	Fomalhaut	W.	33 16 56	2876	34 49 46	2837	36 23 26	2806	37 57 46	2780
	Aldebaran	E.	65 41 2	2287	63 54 44	2301	62 8 46	2315	60 23 9	2331
16	Sun	W.	80 18 2	2717	81 54 19	2732	83 30 17	2747	85 5 54	2762
	Fomalhaut	W.	45 55 48	2716	47 32 6	2719	49 8 30	2710	50 44 57	2709
	α Pegasi	W.	33 48 21	4064	34 58 58	3936	36 11 41	3826	37 26 16	3731
	Aldebaran	E.	51 40 27	2405	49 57 0	2430	48 13 54	2436	46 31 10	2452
	Pollux	E.	95 46 22	2387	94 2 28	2400	92 18 53	2414	90 35 38	2428
17	Sun	W.	92 59 6	2836	94 32 47	2852	96 6 8	2866	97 39 10	2880
	Fomalhaut	W.	58 46 49	2725	60 22 56	2730	61 58 56	2736	63 34 48	2744
	α Pegasi	W.	44 0 18	3418	45 22 14	3379	46 44 54	3345	48 8 13	3316
	Aldebaran	E.	38 3 10	2533	36 22 43	2550	34 42 39	2568	33 3 0	2587
	Pollux	E.	82 4 19	2497	80 23 2	2510	78 42 3	2524	77 1 23	2538
18	Sun	W.	105 19 49	2951	106 51 3	2964	108 22 1	2977	109 52 42	2991
	Fomalhaut	W.	71 31 36	2784	73 6 25	2793	74 41 2	2802	76 15 27	2811
	α Pegasi	W.	55 11 56	3931	56 37 40	3909	58 3 38	3901	59 29 46	3183
	Pollux	E.	68 42 38	2602	67 3 46	2615	65 25 11	2627	63 46 53	2639
	Regulus	E.	104 48 44	2607	103 9 59	2619	101 31 30	2631	99 53 17	2643
19	Sun	W.	117 22 2	3055	118 51 7	3067	120 19 57	3078	121 48 33	3091
	Fomalhaut	W.	84 4 25	2961	85 37 34	2971	87 10 30	2981	88 43 13	2991
	α Pegasi	W.	66 42 9	3177	68 8 46	3176	69 35 24	3177	71 2 1	3178
	Pollux	E.	55 39 26	2698	54 2 44	2710	52 26 17	2721	50 50 5	2732
	Regulus	E.	91 46 10	2700	90 9 30	2710	88 33 4	2721	86 56 52	2732
20	α Pegasi	W.	78 14 24	3196	79 40 39	3200	81 6 48	3206	82 32 50	3211
	α Arietis	W.	34 37 19	3129	36 4 53	3112	37 32 48	3098	39 1 0	3086
	Pollux	E.	42 52 42	2766	41 17 56	2796	39 43 23	2807	38 9 4	2818
	Regulus	E.	78 59 18	2782	77 24 26	2792	75 49 47	2801	74 15 20	2810
21	α Arietis	W.	46 24 46	3056	47 53 50	3053	49 22 57	3059	50 52 6	3050
	Pollux	E.	30 20 56	2871	28 48 0	2883	27 15 20	2895	25 42 55	2909
	Regulus	E.	66 26 1	2854	64 52 43	2862	63 19 36	2871	61 46 40	2879
22	α Arietis	W.	58 17 54	3055	59 46 59	3056	61 16 2	3059	62 45 2	3062
	Aldebaran	W.	26 56 42	2973	28 27 28	2974	29 58 13	2975	31 28 57	2976
	Regulus	E.	54 4 33	2919	52 32 38	2926	51 0 52	2935	49 29 17	2942
	Spica	E.	108 7 14	2924	106 35 26	2931	105 3 47	2938	103 32 16	2944
23	α Arietis	W.	70 9 7	3078	71 37 44	3081	73 6 17	3085	74 34 45	3089
	Aldebaran	W.	39 2 0	2960	40 32 26	2963	42 2 47	2967	43 33 3	3001

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
13	Sun	W.	47° 4' 23"	9448	48° 46' 49"	9458	50° 29' 2"	9469	52° 10' 59"	9480
	α Arietis	E.	57 30 15	9291	55 44 2	9209	53 58 15	9297	52 12 55	9247
	Aldebaran	E.	87 21 27	9141	85 31 30	9151	83 41 48	9161	81 52 22	9172
14	Sun	W.	60 36 35	9543	62 16 49	9556	63 56 44	9570	65 36 20	9583
	α Arietis	E.	43 34 13	9472	41 52 21	9504	40 11 14	9538	38 30 54	9574
	Aldebaran	E.	72 49 35	9233	71 1 57	9247	69 14 39	9260	67 27 41	9273
15	Sun	W.	73 49 30	9657	75 27 8	9672	77 4 26	9687	78 41 24	9701
	Fomalhaut	W.	39 32 40	9760	41 8 0	9744	42 43 41	9732	44 19 38	9722
	Aldebaran	E.	58 37 54	9345	56 53 0	9359	55 8 27	9375	53 24 16	9390
16	Sun	W.	86 41 12	9777	88 16 10	9792	89 50 48	9807	91 25 7	9822
	Fomalhaut	W.	52 21 25	9710	53 57 52	9712	55 34 16	9716	57 10 35	9719
	α Pegasi	W.	38 42 30	9649	40 0 11	9578	41 19 9	9517	42 39 14	9464
	Aldebaran	E.	44 48 49	9467	43 6 50	9484	41 25 14	9499	39 44 0	9517
	Pollux	E.	68 52 43	9443	87 10 8	9455	85 27 52	9470	83 45 56	9483
17	Sun	W.	99 11 54	9894	100 44 20	9909	102 16 27	9923	103 48 17	9937
	Fomalhaut	W.	65 10 30	9750	66 46 3	9759	68 21 25	9767	69 56 36	9775
	α Pegasi	W.	49 32 6	9690	50 56 29	9669	52 21 17	9650	53 46 27	9634
	Aldebaran	E.	31 22 47	9606	29 45 0	9626	28 6 40	9646	26 28 48	9667
	Pollux	E.	75 21 2	9551	73 40 59	9564	72 1 14	9577	70 21 47	9590
18	Sun	W.	111 23 6	9905	112 53 13	9917	114 23 5	9930	115 52 41	9942
	Fomalhaut	W.	77 49 40	9821	79 23 40	9831	80 57 28	9841	82 31 3	9851
	α Pegasi	W.	60 56 4	9767	62 22 29	9783	63 48 59	9799	65 15 33	9816
	Pollux	E.	62 8 51	9652	60 31 6	9663	58 53 37	9675	57 16 24	9687
	Regulus	E.	98 15 21	9655	96 37 40	9666	95 0 15	9678	93 23 5	9689
19	Sun	W.	123 16 54	9992	124 45 1	9994	126 12 54	9996	127 40 33	9997
	Fomalhaut	W.	90 15 43	9901	91 48 0	9912	93 20 4	9923	94 51 54	9933
	α Pegasi	W.	72 28 37	9810	73 55 10	9823	75 21 39	9837	76 48 4	9851
	Pollux	E.	49 14 8	9743	47 38 25	9754	46 2 57	9764	44 27 42	9775
	Regulus	E.	85 20 54	9742	83 45 10	9753	82 9 40	9763	80 34 23	9772
20	α Pegasi	W.	83 58 46	9818	85 24 34	9825	86 50 14	9832	88 15 45	9839
	α Arietis	W.	40 29 27	9677	41 58 5	9689	43 26 52	9694	44 55 46	9699
	Pollux	E.	36 34 59	9628	35 1 8	9638	33 27 30	9649	31 54 6	9660
	Regulus	E.	72 41 5	9619	71 7 2	9628	69 33 10	9637	67 59 30	9645
21	α Arietis	W.	52 21 17	9650	53 50 28	9651	55 19 36	9652	56 48 47	9653
	Pollux	E.	24 10 47	9592	22 38 56	9597	21 7 24	9599	19 36 11	9599
	Regulus	E.	60 13 54	9587	58 41 18	9595	57 8 53	9593	55 36 38	9591
22	α Arietis	W.	64 13 58	9665	65 42 51	9668	67 11 40	9670	68 40 26	9674
	Aldebaran	W.	32 59 40	9578	34 30 20	9581	36 0 57	9584	37 31 30	9586
	Regulus	E.	47 57 51	9550	46 26 35	9558	44 55 29	9565	43 24 32	9573
	Spica	E.	102 0 53	9550	100 29 38	9556	98 58 30	9562	97 27 30	9569
23	α Arietis	W.	76 3 8	9603	77 31 26	9606	78 59 40	9610	80 27 48	9615
	Aldebaran	W.	45 3 15	9605	46 33 21	9609	48 3 23	9613	49 33 20	9617

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	Regulus E.	41° 53' 45"	2981	40° 23' 8"	2989	38° 52' 41"	2997	37° 22' 24"	3005
	SATURN E.	60 1 26	2942	58 30 0	2948	56 58 42	2954	55 27 31	2959
	Spica E.	95 56 38	2974	94 25 53	2980	92 55 15	2985	91 24 44	2992
24	α Arietis W.	81 55 51	3110	83 23 49	3114	84 51 42	3119	86 19 29	3123
	Aldebaran W.	51 3 12	3021	52 32 59	3025	54 2 41	3029	55 32 18	3033
	Regulus E.	29 53 37	3050	28 24 26	3060	26 55 28	3073	25 26 45	3086
	SATURN E.	47 53 26	2989	46 22 59	2993	44 52 38	2999	43 22 24	3004
	Spica E.	83 53 56	3018	82 24 6	3024	80 54 23	3029	79 24 46	3034
25	Aldebaran W.	62 59 12	3052	64 28 21	3055	65 57 26	3059	67 26 26	3062
	Pollux W.	18 55 28	3103	20 23 34	3099	21 51 45	3096	23 20 0	3093
	SATURN E.	35 52 53	3031	34 23 19	3036	32 53 51	3042	31 24 30	3047
	Spica E.	71 58 12	3058	70 29 11	3062	69 0 15	3067	67 31 25	3071
26	Aldebaran W.	74 50 30	3077	76 19 8	3079	77 47 43	3082	79 16 15	3083
	Pollux W.	30 41 48	3089	32 10 11	3089	33 38 34	3090	35 6 56	3091
	Spica E.	60 8 30	3091	58 40 10	3095	57 11 54	3098	55 43 42	3102
	Antares E.	106 0 42	3077	104 32 4	3079	103 3 29	3082	101 34 57	3083
	VENUS E.	117 48 2	3401	116 25 47	3405	115 3 36	3408	113 41 28	3411
27	Aldebaran W.	86 38 20	3092	88 6 39	3093	89 34 57	3094	91 3 14	3094
	Pollux W.	42 23 37	3092	43 56 56	3093	45 25 14	3093	46 53 32	3092
	Spica E.	48 23 48	3119	46 56 1	3122	45 28 18	3125	44 0 39	3129
	Antares E.	94 12 51	3091	92 44 31	3093	91 16 13	3093	89 47 55	3094
	VENUS E.	106 51 34	3422	105 29 42	3423	104 7 52	3425	102 46 4	3426
28	Pollux W.	54 15 13	3088	55 43 37	3087	57 12 2	3086	58 40 29	3083
	Regulus W.	18 29 46	3202	19 55 53	3183	21 22 22	3169	22 49 8	3156
	Spica E.	36 43 24	3146	35 16 10	3149	33 49 0	3154	32 21 56	3160
	Antares E.	82 26 32	3094	80 58 15	3092	79 29 56	3091	78 1 36	3089
	VENUS E.	95 57 15	3438	94 35 30	3427	93 13 44	3426	91 51 57	3424
29	Pollux W.	66 3 30	3069	67 32 18	3065	69 1 10	3060	70 30 8	3056
	Regulus W.	30 6 18	3110	31 34 16	3109	33 2 23	3095	34 30 39	3082
	Antares E.	70 39 18	3078	69 10 41	3074	67 42 0	3070	66 13 14	3067
	VENUS E.	85 2 33	3414	83 40 32	3411	82 18 28	3407	80 56 19	3403
	SUN E.	131 1 39	3468	129 40 39	3463	128 19 33	3458	126 58 22	3453
30	Pollux W.	77 56 32	3027	79 26 11	3021	80 55 58	3014	82 25 54	3006
	Regulus W.	41 54 20	3048	43 23 33	3040	44 52 56	3031	46 22 30	3022
	SATURN W.	23 58 33	3033	25 28 5	3022	26 57 50	3013	28 27 47	3002
	Antares E.	58 48 5	3042	57 18 44	3035	55 49 15	3030	54 19 39	3023
	VENUS E.	74 4 19	3377	72 41 36	3371	71 18 46	3365	69 55 49	3357
	SUN E.	120 10 47	3420	118 48 53	3412	117 26 50	3404	116 4 38	3396
31	Pollux W.	89 58 5	2962	91 29 6	2952	93 0 19	2942	94 31 45	2931
	Regulus W.	53 53 11	2974	55 23 56	2963	56 54 55	2952	58 26 8	2941
	SATURN W.	36 0 45	2950	37 32 0	2939	39 3 30	2927	40 35 15	2916
	Antares E.	46 49 28	2985	45 18 57	2977	43 48 15	2968	42 17 22	2960
	VENUS E.	62 58 47	3315	61 34 53	3305	60 10 47	3295	58 46 30	3285
	SUN E.	109 11 5	3346	107 47 47	3336	106 24 17	3325	105 0 34	3313

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
23	Regulus E.	35° 52' 17"	3014	34° 22' 21"	3022	32° 52' 35"	3030	31° 23' 0"	3040
	SATURN E.	53 56 27	2965	52 25 31	2971	50 54 42	2977	49 24 0	2983
	Spica E.	89 54 21	2997	88 24 5	3002	86 53 55	3008	85 23 52	3014
24	α Arietis W.	87 47 11	3127	89 14 48	3132	90 42 19	3136	92 9 45	3140
	Aldebaran W.	57 1 50	3037	58 31 17	3040	60 0 40	3044	61 29 58	3047
	Regulus E.	23 58 18	3101	22 30 9	3116	21 2 19	3134	19 34 51	3154
	SATURN E.	41 52 16	3009	40 22 15	3015	38 52 21	3021	37 22 34	3026
	Spica E.	77 55 15	3039	76 25 50	3044	74 56 32	3048	73 27 19	3053
25	Aldebaran W.	68 55 22	3065	70 24 14	3068	71 53 3	3071	73 21 48	3073
	Pollux W.	24 48 18	3091	26 16 39	3090	27 45 1	3089	29 13 24	3088
	SATURN E.	29 55 16	3053	28 26 9	3059	26 57 9	3065	25 28 17	3071
	Spica E.	66 2 40	3075	64 34 0	3079	63 5 25	3083	61 36 55	3087
26	Aldebaran W.	80 44 45	3086	82 13 12	3087	83 41 37	3090	85 9 59	3091
	Pollux W.	36 35 17	3091	38 3 38	3091	39 31 58	3091	41 0 18	3092
	Spica E.	54 15 35	3105	52 47 32	3109	51 19 33	3113	49 51 39	3115
	Antares E.	100 6 27	3086	98 38 0	3087	97 9 35	3089	95 41 12	3091
	VENUS E.	112 19 24	3414	110 57 23	3415	109 35 24	3418	108 13 28	3420
27	Aldebaran W.	92 31 31	3095	93 59 47	3095	95 28 3	3095	96 56 19	3095
	Pollux W.	48 21 51	3092	49 50 10	3091	51 18 30	3091	52 46 51	3090
	Spica E.	42 33 4	3132	41 5 33	3135	39 38 6	3138	38 10 43	3142
	Antares E.	88 19 38	3094	86 51 21	3095	85 23 5	3095	83 54 49	3094
	VENUS E.	101 24 17	3427	100 2 31	3427	98 40 45	3428	97 19 0	3428
28	Pollux W.	60 8 59	3082	61 37 31	3078	63 6 7	3078	64 34 46	3072
	Regulus W.	24 16 10	3145	25 43 25	3135	27 10 52	3136	28 38 30	3118
	Spica E.	30 54 59	3165	29 28 8	3173	28 1 26	3180	26 34 53	3189
	Antares E.	76 33 13	3087	75 4 48	3086	73 36 21	3083	72 7 51	3081
	VENUS E.	90 30 8	3423	89 8 18	3421	87 46 25	3419	86 24 30	3417
29	Pollux W.	71 59 12	3051	73 28 22	3046	74 57 38	3040	76 27 1	3034
	Regulus W.	35 59 5	3079	37 27 40	3072	38 56 24	3065	40 25 17	3056
	Antares E.	64 44 24	3062	63 15 28	3058	61 46 27	3052	60 17 19	3047
	VENUS E.	79 34 6	3399	78 11 48	3394	76 49 25	3388	75 26 55	3383
	SUN E.	125 37 5	3446	124 15 41	3440	122 54 10	3434	121 32 32	3428
30	Pollux W.	83 55 59	2998	85 26 14	2989	86 56 40	2981	88 27 17	2972
	Regulus W.	47 52 15	3014	49 22 11	3004	50 52 19	2994	52 22 39	2985
	SATURN W.	29 57 57	2992	31 28 20	2982	32 58 55	2972	34 29 43	2961
	Antares E.	52 49 55	3016	51 20 2	3009	49 50 0	3001	48 19 49	2993
	VENUS E.	68 32 43	3350	67 9 29	3341	65 46 5	3332	64 22 31	3324
	SUN E.	114 42 17	3386	113 19 45	3378	111 57 3	3368	110 34 10	3358
31	Pollux W.	96 3 25	2920	97 35 19	2908	99 7 28	2896	100 39 52	2883
	Regulus W.	59 57 35	2922	61 29 17	2916	63 1 15	2905	64 33 28	2891
	SATURN W.	42 7 14	2903	43 39 29	2891	45 11 59	2879	46 44 45	2866
	Antares E.	40 46 19	2950	39 15 4	2942	37 43 38	2933	36 12 1	2924
	VENUS E.	57 22 1	3275	55 57 20	3263	54 32 25	3252	53 7 17	3239
	SUN E.	103 36 37	3300	102 12 25	3287	100 47 58	3274	99 23 16	3260

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
SUN.	1	^h 20 ^m 59 ^s 27.63	10.189	S. 17° 5' 34".8	+42.73	16' 16".08	68.27	13 48.17	0.331
Mon.	2	21 3 31.75	10.156	16 48 20.4	43.47	16 15.92	68.16	13 55.72	0.298
Tues.	3	21 7 35.07	10.122	16 30 48.3	44.20	16 15.76	68.04	14 2.46	0.264
Wed.	4	21 11 37.59	10.088	16 12 58.9	+44.91	16 15.60	67.93	14 8.40	0.231
Thur.	5	21 15 39.31	10.055	15 54 52.6	45.60	16 15.43	67.81	14 13.54	0.198
Frid.	6	21 19 40.23	10.021	15 36 29.9	46.28	16 15.26	67.70	14 17.89	0.164
Sat.	7	21 23 40.34	9.988	15 17 51.2	+46.94	16 15.08	67.58	14 21.44	0.131
SUN.	8	21 27 39.65	9.955	14 58 56.9	47.58	16 14.91	67.47	14 24.19	0.098
Mon.	9	21 31 38.18	9.922	14 39 47.4	48.20	16 14.73	67.36	14 26.16	0.065
Tues.	10	21 35 35.92	9.889	14 20 23.2	+48.80	16 14.55	67.25	14 27.34	0.032
Wed.	11	21 39 32.86	9.857	14 0 44.7	49.39	16 14.37	67.14	14 27.73	0.000
Thur.	12	21 43 29.01	9.824	13 40 52.3	49.96	16 14.19	67.03	14 27.33	0.033
Frid.	13	21 47 24.39	9.792	13 20 46.6	+50.51	16 14.00	66.92	14 26.16	0.065
Sat.	14	21 51 19.00	9.759	13 0 27.9	51.03	16 13.81	66.81	14 24.22	0.097
SUN.	15	21 55 12.85	9.727	12 39 56.6	51.55	16 13.61	66.71	14 21.53	0.129
Mon.	16	21 59 5.96	9.696	12 19 13.2	+52.05	16 13.41	66.60	14 18.09	0.160
Tues.	17	22 2 58.34	9.666	11 58 18.2	52.53	16 13.21	66.50	14 13.92	0.190
Wed.	18	22 6 49.99	9.637	11 37 11.9	52.99	16 13.01	66.40	14 9.03	0.220
Thur.	19	22 10 40.94	9.608	11 15 54.8	+53.43	16 12.80	66.30	14 3.44	0.249
Frid.	20	22 14 31.20	9.580	10 54 27.2	53.86	16 12.59	66.20	13 57.16	0.276
Sat.	21	22 18 20.78	9.553	10 32 49.5	54.27	16 12.37	66.11	13 50.21	0.303
SUN.	22	22 22 9.71	9.526	10 11 2.2	+54.66	16 12.15	66.02	13 42.61	0.330
Mon.	23	22 25 58.00	9.500	9 49 5.7	55.04	16 11.92	65.93	13 34.37	0.356
Tues.	24	22 29 45.68	9.475	9 27 0.3	55.40	16 11.69	65.84	13 25.52	0.381
Wed.	25	22 33 32.77	9.450	9 4 46.4	+55.75	16 11.46	65.76	13 16.08	0.406
Thur.	26	22 37 19.29	9.427	8 42 24.4	56.08	16 11.22	65.68	13 6.07	0.429
Frid.	27	22 41 5.26	9.404	8 19 54.7	56.40	16 10.98	65.60	12 55.52	0.452
Sat.	28	22 44 50.69	9.383	7 57 17.6	56.70	16 10.73	65.52	12 44.43	0.473
SUN.	29	22 48 35.61	9.362	S. 7 34 33.5	+56.98	16 10.48	65.44	12 32.82	0.494

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
SUN.	1	20 59 25.29	10.188	S. 17 5 44.6	+42.72	13 48.10	0.331	20 45 37.19
Mon.	2	21 3 29.40	10.155	16 48 30.5	43.46	13 55.65	0.298	20 49 33.75
Tues.	3	21 7 32.71	10.121	16 30 58.6	44.19	14 2.40	0.264	20 53 30.31
Wed.	4	21 11 35.22	10.088	16 13 9.4	+44.90	14 8.35	0.231	20 57 26.87
Thur.	5	21 15 36.93	10.055	15 55 3.4	45.59	14 13.50	0.198	21 1 23.43
Frid.	6	21 19 37.85	10.021	15 36 40.9	46.27	14 17.86	0.164	21 5 19.99
Sat.	7	21 23 37.96	9.988	15 18 2.4	+46.93	14 21.42	0.131	21 9 16.54
SUN.	8	21 27 37.27	9.955	14 59 8.3	47.57	14 24.18	0.098	21 13 13.09
Mon.	9	21 31 35.80	9.922	14 39 59.0	48.19	14 26.15	0.065	21 17 9.65
Tues.	10	21 35 33.54	9.889	14 20 35.0	+48.79	14 27.34	0.032	21 21 6.20
Wed.	11	21 39 30.49	9.857	14 0 56.6	49.38	14 27.73	0.000	21 25 2.76
Thur.	12	21 43 26.65	9.824	13 41 4.4	49.95	14 27.34	0.033	21 28 59.31
Frid.	13	21 47 22.04	9.792	13 20 58.8	+50.50	14 26.17	0.065	21 32 55.87
Sat.	14	21 51 16.66	9.760	13 0 40.2	51.03	14 24.24	0.097	21 36 52.42
SUN.	15	21 55 10.53	9.728	12 40 9.0	51.55	14 21.56	0.129	21 40 48.97
Mon.	16	21 59 3.66	9.697	12 19 25.7	+52.05	14 18.13	0.160	21 44 45.53
Tues.	17	22 2 56.05	9.667	11 58 30.7	52.53	14 13.97	0.190	21 48 42.08
Wed.	18	22 6 47.72	9.638	11 37 24.4	52.99	14 9.09	0.220	21 52 38.63
Thur.	19	22 10 38.69	9.609	11 16 7.3	+53.43	14 3.50	0.249	21 56 35.19
Frid.	20	22 14 28.97	9.581	10 54 39.7	53.86	13 57.22	0.276	22 0 31.75
Sat.	21	22 18 18.57	9.554	10 33 2.0	54.27	13 50.27	0.303	22 4 28.30
SUN.	22	22 22 7.53	9.527	10 11 14.7	+54.66	13 42.67	0.330	22 8 24.85
Mon.	23	22 25 55.85	9.501	9 49 18.2	55.04	13 34.44	0.356	22 12 21.41
Tues.	24	22 29 43.56	9.476	9 27 12.7	55.40	13 25.60	0.381	22 16 17.96
Wed.	25	22 33 30.68	9.451	9 4 58.7	+55.75	13 16.16	0.406	22 20 14.52
Thur.	26	22 37 17.23	9.428	8 42 36.6	56.08	13 6.16	0.429	22 24 11.07
Frid.	27	22 41 3.23	9.405	8 20 6.8	56.40	12 55.61	0.452	22 28 7.62
Sat.	28	22 44 48.69	9.384	7 57 29.6	56.70	12 44.52	0.473	22 32 4.17
SUN.	29	22 48 33.65	9.363	S. 7 34 45.4	+56.98	12 32.92	0.494	22 36 0.73

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	32	312° 23' 39.5	23° 50.2	152.19	+ 0.32	9.9936897	+28.6	3 ^h 13 ^m 50.95 ^s
2	33	313 24 31.6	24 42.1	152.15	0.20	9.9937594	29.4	3 9 55.04
3	34	314 25 22.8	25 33.2	152.11	+ 0.07	9.9938308	30.1	3 5 59.13
4	35	315 26 13.1	26 23.4	152.07	— 0.06	9.9939038	+30.8	3 2 3.22
5	36	316 27 2.4	27 12.5	152.03	0.19	9.9939763	31.4	2 58 7.31
6	37	317 27 50.7	28 0.6	151.99	0.31	9.9940543	31.9	2 54 11.41
7	38	318 28 37.9	28 47.7	151.94	— 0.41	9.9941316	+32.4	2 50 15.50
8	39	319 29 23.9	29 33.6	151.89	0.48	9.9942100	32.9	2 46 19.59
9	40	320 30 8.6	30 18.2	151.83	0.52	9.9942894	33.3	2 42 23.67
10	41	321 30 51.9	31 1.3	151.77	— 0.54	9.9943700	+33.8	2 38 27.76
11	42	322 31 33.7	31 43.0	151.71	0.53	9.9944518	34.3	2 34 31.85
12	43	323 32 14.0	32 23.1	151.64	0.48	9.9945348	34.8	2 30 35.94
13	44	324 32 52.6	33 1.6	151.57	— 0.40	9.9946189	+35.3	2 26 40.04
14	45	325 33 29.5	33 38.4	151.50	0.31	9.9947043	35.8	2 22 44.13
15	46	326 34 4.7	34 13.4	151.43	0.20	9.9947910	36.4	2 18 48.22
16	47	327 34 38.0	34 46.6	151.35	— 0.07	9.9948791	+37.0	2 14 52.31
17	48	328 35 9.5	35 18.0	151.27	+ 0.07	9.9949688	37.7	2 10 56.41
18	49	329 35 39.2	35 47.6	151.19	0.20	9.9950602	38.4	2 7 0.50
19	50	330 36 7.0	36 15.3	151.12	+ 0.32	9.9951533	+39.1	2 3 4.59
20	51	331 36 33.0	36 41.1	151.04	0.43	9.9952482	39.9	1 59 8.68
21	52	332 36 57.2	37' 5.2	150.97	0.52	9.9953450	40.7	1 55 12.77
22	53	333 37 19.6	37 27.5	150.89	+ 0.59	9.9954437	+41.5	1 51 16.86
23	54	334 37 40.2	37 48.0	150.82	0.62	9.9955443	42.3	1 47 20.95
24	55	335 37 59.0	38 6.7	150.75	0.62	9.9956469	43.1	1 43 25.04
25	56	336 38 16.2	38 23.7	150.68	+ 0.60	9.9957513	+43.9	1 39 29.14
26	57	337 38 31.8	38 39.2	150.61	0.55	9.9958575	44.6	1 35 33.24
27	58	338 38 45.9	38 53.2	150.55	0.47	9.9959654	45.3	1 31 37.33
28	59	339 38 58.4	39 5.6	150.49	0.37	9.9960749	45.9	1 27 41.42
29	60	340 39 9.4	39 16.5	150.43	+ 0.26	9.9961859	+46.5	1 23 45.51
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								
								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	
							^h ^m	^m	^d
1	15' 9.4	15' 15.3	55' 31.0	+1.69	55' 52.4	+1.87	17 59.7	1.92	21.9
2	15 21.7	15 28.6	56 15.9	2.04	56 41.3	2.19	18 47.5	2.09	22.9
3	15 35.9	15 43.6	57 8.3	2.30	57 36.5	2.39	19 39.8	2.28	23.9
4	15 51.6	15 59.6	58 5.7	+2.44	58 35.1	+2.44	20 37.1	2.47	24.9
5	16 7.5	16 15.2	59 4.3	2.39	59 32.5	2.29	21 38.4	2.60	25.9
6	16 22.4	16 28.9	59 59.0	2.11	60 23.1	1.88	22 42.1	2.64	26.9
7	16 34.7	16 39.4	60 44.1	+1.59	61 1.2	+1.24	23 45.3	2.57	27.9
8	16 42.8	16 45.0	61 13.9	0.86	61 21.8	+0.45	6		28.9
9	16 45.7	16 45.1	61 24.6	+0.02	61 22.2	-0.40	0 45.6	2.45	0.4
10	16 43.1	16 39.8	61 14.9	-0.81	61 2.8	-1.18	1 42.8	2.31	1.4
11	16 35.4	16 30.0	60 46.6	1.51	60 26.7	1.78	2 36.4	2.18	2.4
12	16 23.7	16 16.9	60 3.9	1.99	59 38.9	2.15	3 27.5	2.10	3.4
13	16 9.7	16 2.3	59 12.4	-2.25	58 45.0	-2.30	4 17.1	2.06	4.4
14	15 54.7	15 47.3	58 17.3	2.29	57 50.0	2.25	5 6.5	2.07	5.4
15	15 39.8	15 33.1	57 23.4	2.17	56 58.0	2.06	5 56.4	2.09	6.4
16	15 26.6	15 20.4	56 33.9	-1.94	56 11.4	-1.81	6 47.2	2.14	7.4
17	15 14.8	15 9.6	55 50.6	1.66	55 31.7	1.50	7 39.0	2.16	8.4
18	15 5.0	15 0.8	55 14.6	1.35	54 59.4	1.19	8 31.1	2.16	9.4
19	14 57.2	14 54.0	54 46.0	-1.04	54 34.4	-0.90	9 22.8	2.12	10.4
20	14 51.3	14 49.1	54 24.4	0.76	54 16.1	0.63	10 12.9	2.05	11.4
21	14 47.2	14 45.7	54 9.3	0.51	54 3.9	0.39	11 1.0	1.95	12.4
22	14 44.7	14 44.0	54 0.0	-0.27	53 57.4	-0.16	11 46.6	1.85	13.4
23	14 43.6	14 43.6	53 56.2	-0.05	53 56.2	+0.05	12 30.0	1.77	14.4
24	14 44.0	14 44.7	53 57.5	+0.16	54 0.1	0.28	13 11.6	1.71	15.4
25	14 45.8	14 47.2	54 4.1	+0.39	54 9.4	+0.50	13 52.1	1.68	16.4
26	14 49.1	14 51.3	54 16.2	0.63	54 24.5	0.75	14 32.5	1.69	17.4
27	14 54.0	14 57.2	54 34.3	0.89	54 45.9	1.03	15 13.5	1.74	18.4
28	15 0.8	15 4.9	54 59.1	1.18	55 14.2	1.33	15 56.3	1.84	19.4
29	15 9.5	15 14.6	55 31.1	+1.48	55 49.8	+1.63	16 41.9	1.97	20.4

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	^h 14 ^m 12 ^s 52.19	1.9245	S. 10° 1' 36.5"	12.348	0	^h 15 ^m 51 ^s 34.14	2.2127	S. 19° 1' 31.5"	9.701
1	14 14 47.79	1.9289	10 13 56.5	12.318	1	15 53 47.12	2.2201	19 11 11.0	9.614
2	14 16 43.66	1.9334	10 26 14.7	12.288	2	15 56 0.55	2.2276	19 20 45.2	9.526
3	14 18 39.80	1.9379	10 38 31.1	12.257	3	15 58 14.43	2.2351	19 30 14.1	9.437
4	14 20 36.21	1.9425	10 50 45.6	12.224	4	16 0 28.76	2.2426	19 39 37.6	9.347
5	14 22 32.90	1.9472	11 2 58.0	12.190	5	16 2 43.54	2.2501	19 48 55.7	9.255
6	14 24 29.87	1.9519	11 15 8.4	12.156	6	16 4 58.77	2.2577	19 58 8.2	9.161
7	14 26 27.13	1.9567	11 27 16.7	12.190	7	16 7 14.46	2.2653	20 7 15.0	9.066
8	14 28 24.68	1.9617	11 39 22.8	12.084	8	16 9 30.61	2.2729	20 16 16.1	8.970
9	14 30 22.53	1.9667	11 51 26.8	12.047	9	16 11 47.21	2.2805	20 25 11.4	8.872
10	14 32 20.68	1.9718	12 3 28.5	12.008	10	16 14 4.27	2.2882	20 34 0.8	8.772
11	14 34 19.14	1.9769	12 15 27.8	11.968	11	16 16 21.79	2.2958	20 42 44.1	8.671
12	14 36 17.91	1.9821	12 27 24.7	11.928	12	16 18 39.77	2.3035	20 51 21.3	8.568
13	14 38 16.99	1.9873	12 39 19.1	11.887	13	16 20 58.21	2.3112	20 59 52.3	8.465
14	14 40 16.39	1.9927	12 51 11.1	11.845	14	16 23 17.12	2.3190	21 8 17.1	8.359
15	14 42 16.11	1.9981	13 3 0.5	11.801	15	16 25 36.49	2.3267	21 16 35.4	8.251
16	14 44 16.16	2.0036	13 14 47.2	11.756	16	16 27 56.33	2.3345	21 24 47.2	8.142
17	14 46 16.54	2.0091	13 26 31.2	11.711	17	16 30 16.63	2.3422	21 32 52.5	8.032
18	14 48 17.25	2.0147	13 38 12.5	11.664	18	16 32 37.39	2.3499	21 40 51.1	7.921
19	14 50 18.30	2.0204	13 49 50.9	11.616	19	16 34 58.62	2.3577	21 48 43.0	7.807
20	14 52 19.70	2.0262	14 1 26.4	11.567	20	16 37 20.31	2.3654	21 56 28.0	7.692
21	14 54 21.45	2.0321	14 12 59.0	11.517	21	16 39 42.47	2.3731	22 4 6.0	7.575
22	14 56 23.55	2.0379	14 24 28.5	11.466	22	16 42 5.09	2.3808	22 11 37.0	7.457
23	14 58 26.00	2.0438	S. 14° 35' 54.9"	11.413	23	16 44 28.17	2.3886	S. 22° 19' 0.9"	7.337
MONDAY 2.					WEDNESDAY 4.				
0	15 0 28.81	2.0499	S. 14° 47' 18.1"	11.359	0	16 46 51.72	2.3963	S. 22° 26' 17.5"	7.216
1	15 2 31.99	2.0561	14 58 38.0	11.305	1	16 49 15.73	2.4040	22 33 26.8	7.093
2	15 4 35.54	2.0622	15 9 54.7	11.250	2	16 51 40.20	2.4116	22 40 28.7	6.969
3	15 6 39.46	2.0684	15 21 8.0	11.192	3	16 54 5.12	2.4192	22 47 23.1	6.843
4	15 8 43.75	2.0747	15 32 17.8	11.134	4	16 56 30.50	2.4268	22 54 9.9	6.715
5	15 10 48.43	2.0812	15 43 24.1	11.075	5	16 58 56.34	2.4344	23 0 48.9	6.585
6	15 12 53.49	2.0876	15 54 26.8	11.014	6	17 1 22.63	2.4419	23 7 20.1	6.454
7	15 14 58.94	2.0941	16 5 25.8	10.952	7	17 3 49.37	2.4494	23 13 43.4	6.322
8	15 17 4.78	2.1006	16 16 21.1	10.889	8	17 6 16.56	2.4569	23 19 58.7	6.188
9	15 19 11.01	2.1072	16 27 12.5	10.824	9	17 8 44.20	2.4643	23 26 6.0	6.053
10	15 21 17.64	2.1138	16 38 0.0	10.758	10	17 11 12.28	2.4716	23 32 5.1	5.916
11	15 23 24.67	2.1206	16 48 43.5	10.692	11	17 13 40.80	2.4789	23 37 55.9	5.777
12	15 25 32.11	2.1274	16 59 23.0	10.624	12	17 16 9.75	2.4862	23 43 38.3	5.636
13	15 27 39.96	2.1342	17 9 58.4	10.555	13	17 18 39.14	2.4934	23 49 12.2	5.494
14	15 29 48.22	2.1411	17 20 29.6	10.484	14	17 21 8.96	2.5006	23 54 37.6	5.352
15	15 31 56.89	2.1480	17 30 56.5	10.412	15	17 23 39.21	2.5077	23 59 54.4	5.207
16	15 34 5.98	2.1551	17 41 19.0	10.338	16	17 26 9.88	2.5147	24 5 2.5	5.061
17	15 36 15.50	2.1622	17 51 37.0	10.262	17	17 28 40.97	2.5217	24 10 1.7	4.912
18	15 38 25.44	2.1693	18 1 50.4	10.185	18	17 31 12.48	2.5286	24 14 52.0	4.763
19	15 40 35.80	2.1764	18 11 59.2	10.108	19	17 33 44.40	2.5353	24 19 31.3	4.613
20	15 42 46.60	2.1836	18 22 3.4	10.030	20	17 36 16.72	2.5420	24 24 5.5	4.461
21	15 44 57.83	2.1908	18 32 2.8	9.949	21	17 38 49.44	2.5487	24 28 28.6	4.307
22	15 47 9.50	2.1981	18 41 57.3	9.867	22	17 41 22.56	2.5552	24 32 42.4	4.152
23	15 49 21.60	2.2054	18 51 46.9	9.785	23	17 43 56.07	2.5617	24 36 46.8	3.995
24	15 51 34.14	2.2127	S. 19° 1' 31.5"	9.701	24	17 46 29.96	2.5680	S. 24° 40' 41.8"	3.837

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hear.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hear.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	17 46 29.96	2.5680	S. 24° 40' 41.8"	3.837	0	19 54 37.68	2.7112	S. 24° 23' 21.6"	4.788
1	17 49 4.23	2.5743	24 44 27.3	3.678	1	19 57 20.33	2.7102	24 18 28.8	4.973
2	17 51 38.88	2.5805	24 48 3.2	3.518	2	20 0 2.91	2.7091	24 13 24.9	5.158
3	17 54 13.89	2.5865	24 51 29.4	3.356	3	20 2 45.42	2.7077	24 8 9.9	5.343
4	17 56 49.26	2.5925	24 54 45.9	3.192	4	20 5 27.84	2.7062	24 2 43.8	5.526
5	17 59 24.99	2.5983	24 57 52.5	3.027	5	20 8 10.17	2.7047	23 57 6.8	5.708
6	18 2 1.06	2.6040	25 0 49.2	2.863	6	20 10 52.40	2.7032	23 51 18.8	5.891
7	18 4 37.47	2.6097	25 3 35.9	2.695	7	20 13 34.52	2.7009	23 45 19.9	6.073
8	18 7 14.22	2.6152	25 6 12.6	2.527	8	20 16 16.51	2.6987	23 39 10.0	6.255
9	18 9 51.20	2.6205	25 8 39.2	2.358	9	20 18 58.37	2.6965	23 32 49.3	6.434
10	18 12 28.68	2.6257	25 10 55.6	2.187	10	20 21 40.09	2.6942	23 26 17.9	6.613
11	18 15 6.38	2.6309	25 13 1.7	2.016	11	20 24 21.07	2.6917	23 19 35.7	6.792
12	18 17 44.39	2.6360	25 14 57.5	1.843	12	20 27 3.09	2.6899	23 12 42.8	6.970
13	18 20 22.70	2.6408	25 16 42.9	1.669	13	20 29 44.34	2.6861	23 5 39.3	7.146
14	18 23 1.29	2.6454	25 18 17.8	1.494	14	20 32 25.42	2.6839	22 58 25.3	7.321
15	18 25 40.15	2.6499	25 19 42.2	1.318	15	20 35 6.32	2.6801	22 51 0.8	7.495
16	18 28 19.28	2.6544	25 20 56.0	1.142	16	20 37 47.03	2.6768	22 43 25.9	7.668
17	18 30 58.68	2.6587	25 21 59.2	0.964	17	20 40 27.54	2.6735	22 35 40.6	7.840
18	18 33 38.33	2.6628	25 22 51.7	0.785	18	20 43 7.85	2.6701	22 27 45.1	8.010
19	18 36 18.22	2.6668	25 23 33.4	0.606	19	20 45 47.95	2.6665	22 19 39.4	8.180
20	18 38 58.35	2.6707	25 24 4.4	0.427	20	20 48 27.83	2.6637	22 11 23.5	8.349
21	18 41 38.70	2.6743	25 24 24.6	0.246	21	20 51 7.48	2.6589	22 2 57.5	8.516
22	18 44 19.27	2.6779	25 24 33.9	- 0.063	22	20 53 46.90	2.6550	21 54 21.6	8.681
23	18 47 0.05	2.6812	S. 25° 24' 32.2"	+ 0.130	23	20 56 26.08	2.6509	S. 21° 45' 35.8"	8.844
FRIDAY 6.					SUNDAY 8.				
0	18 49 41.02	2.6844	S. 25° 24' 19.5"	0.303	0	20 59 5.01	2.6467	S. 21° 36' 40.3"	9.006
1	18 52 22.18	2.6875	25 23 55.8	0.487	1	21 1 43.69	2.6425	21 27 35.1	9.167
2	18 55 3.52	2.6904	25 23 21.1	0.671	2	21 4 22.11	2.6382	21 18 20.2	9.328
3	18 57 45.03	2.6933	25 22 35.3	0.856	3	21 7 0.27	2.6337	21 8 55.7	9.487
4	19 0 26.70	2.6957	25 21 38.4	1.042	4	21 9 38.16	2.6292	20 59 21.8	9.643
5	19 3 8.51	2.6980	25 20 30.3	1.227	5	21 12 15.78	2.6246	20 49 38.6	9.797
6	19 5 50.46	2.7002	25 19 11.1	1.413	6	21 14 53.11	2.6199	20 39 46.2	9.950
7	19 8 32.54	2.7023	25 17 40.7	1.600	7	21 17 30.16	2.6151	20 29 44.6	10.102
8	19 11 14.74	2.7042	25 15 59.1	1.787	8	21 20 6.92	2.6102	20 19 34.0	10.252
9	19 13 57.05	2.7060	25 14 6.2	1.975	9	21 22 43.38	2.6052	20 9 14.4	10.400
10	19 16 39.46	2.7075	25 12 2.1	2.162	10	21 25 19.54	2.6002	19 58 46.0	10.546
11	19 19 21.95	2.7088	25 9 46.7	2.350	11	21 27 55.40	2.5952	19 48 8.9	10.691
12	19 22 4.52	2.7101	25 7 20.1	2.538	12	21 30 30.96	2.5900	19 37 23.1	10.834
13	19 24 47.16	2.7112	25 4 42.2	2.726	13	21 33 6.20	2.5848	19 26 28.8	10.975
14	19 27 29.86	2.7120	25 1 53.0	2.914	14	21 35 41.13	2.5795	19 15 26.1	11.114
15	19 30 12.60	2.7127	24 58 52.5	3.102	15	21 38 15.74	2.5741	19 4 15.1	11.252
16	19 32 55.38	2.7132	24 55 40.7	3.290	16	21 40 50.02	2.5687	18 52 55.9	11.387
17	19 35 38.18	2.7135	24 52 17.7	3.478	17	21 43 23.98	2.5632	18 41 28.7	11.520
18	19 38 21.00	2.7137	24 48 43.4	3.666	18	21 45 57.61	2.5577	18 29 53.5	11.652
19	19 41 3.82	2.7137	24 44 57.8	3.853	19	21 48 30.91	2.5522	18 18 10.5	11.782
20	19 43 46.64	2.7136	24 41 1.0	4.040	20	21 51 3.88	2.5467	18 6 19.7	11.910
21	19 46 29.45	2.7132	24 36 53.0	4.228	21	21 53 36.51	2.5411	17 54 21.3	12.036
22	19 49 12.23	2.7127	24 32 33.7	4.415	22	21 56 8.81	2.5355	17 42 15.4	12.159
23	19 51 54.98	2.7121	24 28 3.2	4.601	23	21 58 40.77	2.5298	17 30 2.2	12.281
24	19 54 37.68	2.7112	S. 24° 23' 21.6"	4.788	24	22 1 12.39	2.5243	S. 17° 17' 41.7"	12.401

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	^h 22 ^m 1 ^s 12.39	2.5942	S. 17° 17' 41.7"	12.401	0	^h 23 ^m 55 ^s 58.53	2.9711	S. 5° 44' 17.4"	15.692
1	22 3 43.67	2.5185	17 5 14.1	12.518	1	23 58 14.67	2.9670	5 28 35.3	15.711
2	22 6 14.61	2.5127	16 52 39.5	12.634	2	0 0 30.57	2.9631	5 12 52.1	15.727
3	22 8 45.20	2.5070	16 39 58.0	12.747	3	0 2 46.24	2.9592	4 57 8.0	15.742
4	22 11 15.45	2.5012	16 27 9.8	12.859	4	0 5 1.67	2.9552	4 41 23.0	15.756
5	22 13 45.35	2.4954	16 14 14.9	12.969	5	0 7 16.86	2.9513	4 25 37.3	15.767
6	22 16 14.90	2.4897	16 1 13.5	13.077	6	0 9 31.82	2.9475	4 9 50.9	15.777
7	22 18 44.11	2.4839	15 48 5.7	13.182	7	0 11 46.56	2.9438	3 54 4.0	15.785
8	22 21 12.97	2.4781	15 34 51.7	13.284	8	0 14 1.08	2.9403	3 38 16.7	15.791
9	22 23 41.48	2.4723	15 21 31.6	13.385	9	0 16 15.39	2.9367	3 22 29.1	15.795
10	22 26 9.65	2.4666	15 8 5.5	13.484	10	0 18 29.49	2.9332	3 6 41.3	15.797
11	22 28 37.47	2.4608	14 54 33.5	13.582	11	0 20 43.38	2.9298	2 50 53.4	15.799
12	22 31 4.95	2.4551	14 40 55.7	13.677	12	0 22 57.07	2.9265	2 35 5.4	15.798
13	22 33 32.08	2.4493	14 27 12.3	13.769	13	0 25 10.56	2.9232	2 19 17.6	15.795
14	22 35 58.87	2.4436	14 13 23.4	13.859	14	0 27 23.86	2.9201	2 3 30.0	15.791
15	22 38 25.31	2.4379	13 59 29.2	13.947	15	0 29 36.97	2.9170	1 47 42.7	15.785
16	22 40 51.41	2.4322	13 45 29.7	14.033	16	0 31 49.90	2.9140	1 31 55.8	15.777
17	22 43 17.17	2.4265	13 31 25.2	14.117	17	0 34 2.65	2.9110	1 16 9.5	15.767
18	22 45 42.59	2.4208	13 17 15.7	14.199	18	0 36 15.22	2.9081	1 0 23.8	15.756
19	22 48 7.67	2.4152	13 3 1.3	14.279	19	0 38 27.62	2.9052	0 44 38.8	15.743
20	22 50 32.42	2.4096	12 48 42.2	14.357	20	0 40 39.85	2.9025	0 28 54.6	15.729
21	22 52 56.83	2.4040	12 34 18.5	14.432	21	0 42 51.92	2.1998	S. 0 13 11.3	15.713
22	22 55 20.90	2.3985	12 19 50.3	14.506	22	0 45 3.83	2.1979	N. 0 2 31.0	15.696
23	22 57 44.65	2.3931	S. 12 5 17.8	14.577	23	0 47 15.59	2.1947	N. 0 18 12.2	15.677
TUESDAY 10.					THURSDAY 12.				
0	23 0 8.07	2.3876	S. 11 50 41.0	14.647	0	0 49 27.20	2.1922	N. 0 33 52.2	15.656
1	23 2 31.16	2.3822	11 36 0.2	14.714	1	0 51 38.66	2.1899	0 49 30.9	15.634
2	23 4 53.93	2.3768	11 21 15.4	14.779	2	0 53 49.99	2.1877	1 5 8.3	15.611
3	23 7 16.37	2.3714	11 6 26.7	14.843	3	0 56 1.18	2.1854	1 20 44.2	15.585
4	23 9 38.50	2.3661	10 51 34.3	14.902	4	0 58 12.24	2.1832	1 36 18.5	15.558
5	23 12 0.31	2.3608	10 36 38.4	14.961	5	1 0 23.17	2.1812	1 51 51.2	15.530
6	23 14 21.80	2.3556	10 21 39.0	15.018	6	1 2 33.98	2.1792	2 7 22.1	15.500
7	23 16 42.98	2.3504	10 6 36.3	15.073	7	1 4 44.67	2.1772	2 22 51.2	15.470
8	23 19 3.85	2.3453	9 51 30.3	15.126	8	1 6 55.24	2.1753	2 38 18.5	15.437
9	23 21 24.42	2.3402	9 36 21.2	15.176	9	1 9 5.70	2.1735	2 53 43.7	15.402
10	23 23 44.68	2.3352	9 21 9.2	15.223	10	1 11 16.06	2.1718	3 9 6.8	15.367
11	23 26 4.65	2.3303	8 5 54.4	15.270	11	1 13 26.32	2.1702	3 24 27.8	15.331
12	23 28 24.32	2.3254	8 50 36.8	15.315	12	1 15 36.48	2.1686	3 39 46.5	15.293
13	23 30 43.70	2.3206	8 35 16.6	15.357	13	1 17 46.55	2.1671	3 55 2.9	15.253
14	23 33 2.79	2.3158	8 19 54.0	15.397	14	1 19 56.53	2.1657	4 10 16.9	15.212
15	23 35 21.59	2.3110	8 4 29.0	15.435	15	1 22 6.43	2.1643	4 25 28.4	15.170
16	23 37 40.11	2.3063	7 49 1.8	15.472	16	1 24 16.24	2.1629	4 40 37.3	15.126
17	23 39 58.35	2.3017	7 33 32.4	15.506	17	1 26 25.98	2.1617	4 55 43.5	15.080
18	23 42 16.31	2.2971	7 18 1.0	15.538	18	1 28 35.65	2.1606	5 10 46.9	15.034
19	23 44 34.00	2.2926	7 2 27.8	15.568	19	1 30 45.25	2.1595	5 25 47.5	14.987
20	23 46 51.43	2.2882	6 46 52.8	15.597	20	1 32 54.79	2.1585	5 40 45.3	14.938
21	23 49 8.59	2.2838	6 31 16.1	15.624	21	1 35 4.27	2.1576	5 55 40.1	14.888
22	23 51 25.49	2.2796	6 15 37.9	15.648	22	1 37 13.70	2.1567	6 10 31.9	14.837
23	23 53 42.14	2.2753	5 59 58.3	15.671	23	1 39 23.07	2.1558	6 25 20.5	14.783
24	23 55 58.53	2.2711	S. 5 44 17.4	15.692	24	1 41 32.39	2.1550	N. 6 40 5.9	14.729

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	1 41 32.39	2.1550	N. 6 40' 5.9"	14.729	0	3 25 11.61	2.1817	N. 17 4' 13.4"	10.902
1	1 43 41.67	2.1543	6 54 48.0	14.674	1	3 27 22.55	2.1831	17 15 4.5	10.801
2	1 45 50.91	2.1537	7 9 26.8	14.618	2	3 29 33.58	2.1847	17 25 49.5	10.698
3	1 48 0.12	2.1539	7 24 2.2	14.561	3	3 31 44.71	2.1862	17 36 28.3	10.595
4	1 50 9.29	2.1527	7 38 34.1	14.502	4	3 33 55.93	2.1877	17 47 0.9	10.491
5	1 52 18.44	2.1522	7 53 2.5	14.443	5	3 36 7.24	2.1892	17 57 27.2	10.387
6	1 54 27.56	2.1519	8 7 27.2	14.381	6	3 38 18.64	2.1908	18 7 47.3	10.282
7	1 56 36.66	2.1516	8 21 48.2	14.319	7	3 40 30.14	2.1924	18 18 1.0	10.175
8	1 58 45.75	2.1513	8 36 5.5	14.256	8	3 42 41.73	2.1940	18 28 8.3	10.069
9	2 0 54.82	2.1511	8 50 18.9	14.191	9	3 44 53.42	2.1957	18 38 9.3	9.962
10	2 3 3.88	2.1510	9 4 28.4	14.126	10	3 47 5.21	2.1973	18 48 3.8	9.854
11	2 5 12.94	2.1509	9 18 34.0	14.059	11	3 49 17.10	2.1989	18 57 51.8	9.745
12	2 7 21.99	2.1508	9 32 35.5	13.991	12	3 51 29.08	2.2005	19 7 33.2	9.635
13	2 9 31.04	2.1509	9 46 32.9	13.922	13	3 53 41.16	2.2022	19 17 8.0	9.525
14	2 11 40.10	2.1511	10 0 26.2	13.852	14	3 55 53.34	2.2038	19 26 36.2	9.415
15	2 13 49.17	2.1512	10 14 15.2	13.781	15	3 58 5.62	2.2055	19 35 57.8	9.304
16	2 15 58.25	2.1514	10 27 59.9	13.709	16	4 0 18.00	2.2071	19 45 12.7	9.192
17	2 18 7.34	2.1517	10 41 40.3	13.636	17	4 2 30.47	2.2087	19 54 20.8	9.079
18	2 20 16.45	2.1520	10 55 16.2	13.561	18	4 4 43.04	2.2103	20 3 22.2	8.966
19	2 22 25.58	2.1523	11 8 47.6	13.486	19	4 6 55.71	2.2120	20 12 16.8	8.852
20	2 24 34.73	2.1527	11 22 14.5	13.411	20	4 9 8.48	2.2137	20 21 4.5	8.737
21	2 26 43.91	2.1532	11 35 36.9	13.334	21	4 11 21.35	2.2153	20 29 45.3	8.622
22	2 28 53.12	2.1537	11 48 54.6	13.255	22	4 13 34.32	2.2169	20 38 19.2	8.507
23	2 31 2.36	2.1543	N. 12 2 7.5	13.175	23	4 15 47.38	2.2185	N. 20 46 46.1	8.391
SATURDAY 14.					MONDAY 16.				
0	2 33 11.64	2.1550	N. 12 15 15.6	13.095	0	4 18 0.54	2.2201	N. 20 55 6.1	8.275
1	2 35 20.96	2.1557	12 28 18.9	13.014	1	4 20 13.79	2.2217	21 3 19.1	8.157
2	2 37 30.32	2.1564	12 41 17.3	12.932	2	4 22 27.14	2.2233	21 11 25.0	8.039
3	2 39 39.72	2.1571	12 54 10.7	12.849	3	4 24 40.59	2.2249	21 19 23.8	7.921
4	2 41 49.17	2.1579	13 6 59.1	12.765	4	4 26 54.13	2.2264	21 27 15.6	7.803
5	2 43 58.67	2.1588	13 19 42.5	12.681	5	4 29 7.76	2.2280	21 35 0.2	7.683
6	2 46 8.22	2.1597	13 32 20.8	12.596	6	4 31 21.49	2.2296	21 42 37.6	7.563
7	2 48 17.83	2.1606	13 44 53.9	12.508	7	4 33 35.31	2.2310	21 50 7.8	7.443
8	2 50 27.49	2.1615	13 57 21.7	12.420	8	4 35 49.21	2.2324	21 57 30.8	7.322
9	2 52 37.21	2.1626	14 9 44.3	12.332	9	4 38 3.20	2.2339	22 4 46.5	7.201
10	2 54 47.00	2.1637	14 22 1.5	12.242	10	4 40 17.28	2.2354	22 11 54.9	7.079
11	2 56 56.85	2.1647	14 34 13.3	12.152	11	4 42 31.45	2.2368	22 18 56.0	6.957
12	2 59 6.76	2.1658	14 46 19.7	12.061	12	4 44 45.70	2.2383	22 25 49.8	6.835
13	3 1 16.74	2.1669	14 58 20.6	11.968	13	4 47 0.03	2.2395	22 32 36.2	6.712
14	3 3 26.79	2.1682	15 10 15.9	11.875	14	4 49 14.44	2.2409	22 39 15.2	6.588
15	3 5 36.92	2.1694	15 22 5.6	11.782	15	4 51 28.94	2.2422	22 45 46.8	6.465
16	3 7 47.12	2.1707	15 33 49.7	11.688	16	4 53 43.51	2.2435	22 52 11.0	6.341
17	3 9 57.40	2.1719	15 45 28.1	11.593	17	4 55 58.16	2.2447	22 58 27.7	6.216
18	3 12 7.75	2.1732	15 57 0.8	11.497	18	4 58 12.88	2.2459	23 4 36.9	6.091
19	3 14 18.18	2.1746	16 8 27.7	11.399	19	5 0 27.67	2.2471	23 10 38.6	5.966
20	3 16 28.70	2.1760	16 19 48.7	11.301	20	5 2 42.53	2.2482	23 16 32.8	5.840
21	3 18 39.30	2.1773	16 31 3.8	11.202	21	5 4 57.46	2.2493	23 22 19.4	5.713
22	3 20 49.98	2.1787	16 42 13.0	11.103	22	5 7 12.45	2.2503	23 27 58.4	5.587
23	3 23 0.75	2.1802	16 53 16.2	11.003	23	5 9 27.50	2.2514	23 33 29.8	5.461
24	3 25 11.61	2.1817	N. 17 4 13.4	10.902	24	5 11 42.62	2.2524	N. 23 38 53.7	5.334

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	5 11 42.62	2.2524	N.23 38 53.7	5.334	0	6 59 59.60	2.2370	N.25 25 44.0	0.880
1	5 13 57.79	2.2533	23 44 9.9	5.306	1	7 2 13.77	2.2352	25 24 47.4	1.007
2	5 16 13.02	2.2542	23 49 18.4	5.078	2	7 4 27.83	2.2334	25 23 43.2	1.133
3	5 18 28.30	2.2551	23 54 19.3	4.951	3	7 6 41.78	2.2315	25 22 31.4	1.259
4	5 20 43.63	2.2559	23 59 12.5	4.823	4	7 8 55.61	2.2295	25 21 12.1	1.385
5	5 22 59.01	2.2567	24 3 58.0	4.695	5	7 11 9.32	2.2274	25 19 45.2	1.511
6	5 25 14.44	2.2575	24 8 35.9	4.567	6	7 13 22.90	2.2253	25 18 10.8	1.635
7	5 27 29.91	2.2582	24 13 6.0	4.438	7	7 15 36.35	2.2232	25 16 29.0	1.759
8	5 29 45.42	2.2588	24 17 28.4	4.308	8	7 17 49.68	2.2211	25 14 39.7	1.884
9	5 32 0.96	2.2593	24 21 43.0	4.179	9	7 20 2.88	2.2188	25 12 42.9	2.008
10	5 34 16.54	2.2598	24 25 49.9	4.050	10	7 22 15.94	2.2164	25 10 38.7	2.131
11	5 36 32.14	2.2603	24 29 49.0	3.920	11	7 24 28.85	2.2140	25 8 27.1	2.254
12	5 38 47.77	2.2608	24 33 40.3	3.790	12	7 26 41.62	2.2116	25 6 8.2	2.377
13	5 41 3.43	2.2611	24 37 23.8	3.660	13	7 28 54.24	2.2091	25 3 41.9	2.499
14	5 43 19.11	2.2614	24 40 59.5	3.530	14	7 31 6.71	2.2068	25 1 8.3	2.620
15	5 45 34.80	2.2617	24 44 27.4	3.400	15	7 33 19.03	2.2040	24 58 27.5	2.741
16	5 47 50.51	2.2619	24 47 47.5	3.270	16	7 35 31.19	2.2014	24 55 39.4	2.862
17	5 50 6.23	2.2621	24 50 59.8	3.140	17	7 37 43.20	2.1988	24 52 44.1	2.982
18	5 52 21.96	2.2622	24 54 4.3	3.009	18	7 39 55.05	2.1961	24 49 41.6	3.102
19	5 54 37.69	2.2622	24 57 0.9	2.878	19	7 42 6.73	2.1933	24 46 31.9	3.221
20	5 56 53.42	2.2622	24 59 49.7	2.748	20	7 44 18.24	2.1904	24 43 15.1	3.339
21	5 59 9.15	2.2623	25 2 30.7	2.617	21	7 46 29.58	2.1875	24 39 51.2	3.457
22	6 1 24.88	2.2620	25 5 3.8	2.487	22	7 48 40.74	2.1846	24 36 20.3	3.574
23	6 3 40.59	2.2617	N.25 7 29.1	2.357	23	7 50 51.73	2.1817	N.24 32 42.3	3.691
WEDNESDAY 18.					FRIDAY 20.				
0	6 5 56.29	2.2615	N.25 9 46.6	2.226	0	7 53 2.54	2.1786	N.24 28 57.3	3.807
1	6 8 11.97	2.2612	25 11 56.2	2.095	1	7 55 13.16	2.1755	24 25 5.4	3.923
2	6 10 27.64	2.2609	25 13 58.0	1.964	2	7 57 23.60	2.1725	24 21 6.5	4.039
3	6 12 43.28	2.2604	25 15 51.9	1.833	3	7 59 33.86	2.1694	24 17 0.7	4.153
4	6 14 58.89	2.2599	25 17 38.0	1.702	4	8 1 43.93	2.1662	24 12 48.1	4.267
5	6 17 14.47	2.2594	25 19 16.2	1.572	5	8 3 53.81	2.1630	24 8 28.6	4.381
6	6 19 30.02	2.2588	25 20 46.6	1.442	6	8 6 3.49	2.1597	24 4 2.3	4.494
7	6 21 45.53	2.2581	25 22 9.2	1.312	7	8 8 12.97	2.1564	23 59 29.3	4.606
8	6 24 0.99	2.2574	25 23 24.0	1.181	8	8 10 22.26	2.1531	23 54 49.6	4.718
9	6 26 16.41	2.2566	25 24 30.9	1.050	9	8 12 31.35	2.1497	23 50 3.2	4.829
10	6 28 31.78	2.2557	25 25 30.0	0.921	10	8 14 40.23	2.1463	23 45 10.1	4.939
11	6 30 47.09	2.2548	25 26 21.4	0.792	11	8 16 48.91	2.1430	23 40 10.5	5.048
12	6 33 2.35	2.2538	25 27 5.0	0.662	12	8 18 57.39	2.1396	23 35 4.3	5.157
13	6 35 17.55	2.2527	25 27 40.8	0.532	13	8 21 5.66	2.1361	23 29 51.6	5.266
14	6 37 32.68	2.2516	25 28 8.8	0.402	14	8 23 13.72	2.1325	23 24 32.4	5.374
15	6 39 47.74	2.2504	25 28 29.0	0.273	15	8 25 21.56	2.1289	23 19 6.7	5.481
16	6 42 2.73	2.2491	25 28 41.5	0.144	16	8 27 29.19	2.1254	23 13 34.7	5.587
17	6 44 17.64	2.2478	25 28 46.3	+ 0.015	17	8 29 36.61	2.1218	23 7 56.3	5.692
18	6 46 32.47	2.2465	25 28 43.3	- 0.114	18	8 31 43.81	2.1182	23 2 11.6	5.797
19	6 48 47.22	2.2452	25 28 32.6	0.243	19	8 33 50.79	2.1146	22 56 20.6	5.902
20	6 51 1.89	2.2437	25 28 14.2	0.371	20	8 35 57.56	2.1110	22 50 23.4	6.005
21	6 53 16.47	2.2422	25 27 48.1	0.498	21	8 38 4.11	2.1073	22 44 20.0	6.108
22	6 55 30.95	2.2405	25 27 14.4	0.626	22	8 40 10.43	2.1035	22 38 10.4	6.211
23	6 57 45.33	2.2387	25 26 33.0	0.753	23	8 42 16.53	2.0998	22 31 54.7	6.312
24	6 59 59.60	2.2370	N.25 25 44.0	0.880	24	8 44 22.41	2.0961	N.22 25 33.0	6.412

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 21.					MONDAY 23.				
0	h m s	^s	N. 22° 25' 33.0	6.412	0	h m s	^s	N. 15° 36' 23.4	10.334
1	8 44 22.41	2.0961	22 19 5.3	6.512	1	10 20 38.15	1.9187	15 26 1.5	10.396
2	8 46 28.06	2.0923	22 12 31.6	6.612	2	10 22 33.18	1.9155	15 15 35.9	10.457
3	8 48 33.49	2.0886	22 5 51.9	6.711	3	10 24 28.01	1.9122	15 5 6.7	10.517
4	8 50 38.69	2.0848	21 59 6.3	6.808	4	10 26 22.64	1.9089	14 54 33.9	10.577
5	8 52 43.67	2.0811	21 52 14.9	6.904	5	10 28 17.08	1.9058	14 43 57.5	10.637
6	8 54 48.42	2.0773	21 45 17.8	7.000	6	10 30 11.34	1.9027	14 33 17.5	10.695
7	8 56 52.94	2.0734	21 38 14.9	7.096	7	10 32 5.41	1.8997	14 22 34.1	10.752
8	8 58 57.23	2.0696	21 31 6.3	7.191	8	10 33 59.30	1.8966	14 11 47.3	10.808
9	9 1 1.29	2.0658	21 23 52.0	7.285	9	10 35 53.00	1.8935	14 0 57.1	10.865
10	9 3 5.13	2.0621	21 16 32.1	7.378	10	10 37 46.52	1.8906	13 50 3.5	10.921
11	9 5 8.74	2.0582	21 9 6.7	7.470	11	10 39 39.87	1.8877	13 39 6.6	10.975
12	9 7 12.11	2.0543	21 1 35.7	7.562	12	10 41 33.04	1.8847	13 28 6.5	11.028
13	9 9 15.25	2.0504	20 53 59.2	7.653	13	10 43 26.03	1.8818	13 17 3.2	11.081
14	9 11 18.16	2.0466	20 46 17.3	7.743	14	10 45 18.85	1.8789	13 5 56.8	11.133
15	9 13 20.84	2.0427	20 38 30.1	7.832	15	10 47 11.51	1.8762	12 54 47.3	11.184
16	9 15 23.29	2.0389	20 30 37.5	7.920	16	10 49 4.00	1.8735	12 43 34.7	11.235
17	9 17 25.51	2.0351	20 22 39.7	8.008	17	10 50 56.33	1.8708	12 32 19.1	11.285
18	9 19 27.50	2.0312	20 14 36.6	8.095	18	10 52 48.50	1.8681	12 21 0.5	11.334
19	9 21 29.26	2.0274	20 6 28.3	8.181	19	10 54 40.50	1.8654	12 9 39.0	11.382
20	9 23 30.79	2.0236	19 58 14.9	8.266	20	10 56 32.35	1.8629	11 58 14.7	11.429
21	9 25 32.09	2.0197	19 49 56.4	8.351	21	10 58 24.05	1.8603	11 46 47.5	11.476
22	9 27 33.16	2.0159	19 41 32.8	8.435	22	11 0 15.59	1.8578	11 35 17.6	11.522
23	9 29 34.00	2.0121	N. 19° 33' 4.2	8.518	23	11 2 6.99	1.8554	N. 11° 23' 44.9	11.567
24	9 31 34.61	2.0082				11 3 58.24	1.8529		
SUNDAY 22.					TUESDAY 24.				
0	9 33 34.99	2.0044	N. 19° 24' 30.6	8.601	0	11 5 49.34	1.8505	N. 11° 12' 9.5	11.612
1	9 35 35.14	2.0007	19 15 52.1	8.689	1	11 7 40.30	1.8482	11 0 31.5	11.655
2	9 37 35.07	1.9969	19 7 8.8	8.782	2	11 9 31.13	1.8460	10 48 50.9	11.698
3	9 39 34.77	1.9932	18 58 20.7	8.841	3	11 11 21.82	1.8438	10 37 7.7	11.741
4	9 41 34.25	1.9894	18 49 27.9	8.930	4	11 13 12.38	1.8416	10 25 22.0	11.783
5	9 43 33.50	1.9857	18 40 30.3	9.019	5	11 15 2.81	1.8394	10 13 33.9	11.822
6	9 45 32.53	1.9820	18 31 28.0	9.077	6	11 16 53.11	1.8373	10 1 43.3	11.862
7	9 47 31.34	1.9782	18 22 21.1	9.153	7	11 18 43.28	1.8352	9 49 50.4	11.901
8	9 49 29.92	1.9745	18 13 9.7	9.228	8	11 20 33.34	1.8333	9 37 55.2	11.939
9	9 51 28.28	1.9708	18 3 53.7	9.304	9	11 22 23.28	1.8314	9 25 57.7	11.977
10	9 53 26.42	1.9673	17 54 33.2	9.378	10	11 24 13.11	1.8295	9 13 57.9	12.015
11	9 55 24.35	1.9636	17 45 8.3	9.452	11	11 26 2.82	1.8276	9 1 55.9	12.051
12	9 57 22.06	1.9600	17 35 39.0	9.524	12	11 27 52.42	1.8258	8 49 51.8	12.086
13	9 59 19.55	1.9564	17 26 5.4	9.596	13	11 29 41.92	1.8241	8 37 45.6	12.121
14	10 1 16.83	1.9529	17 16 27.5	9.667	14	11 31 31.31	1.8224	8 25 37.3	12.155
15	10 3 13.90	1.9493	17 6 45.4	9.737	15	11 33 20.60	1.8208	8 13 27.0	12.188
16	10 5 10.75	1.9457	16 56 50.1	9.807	16	11 35 9.80	1.8192	8 1 14.8	12.220
17	10 7 7.39	1.9423	16 47 8.6	9.876	17	11 36 58.90	1.8176	7 49 0.6	12.252
18	10 9 3.83	1.9389	16 37 14.0	9.943	18	11 38 47.91	1.8161	7 36 44.5	12.283
19	10 11 0.06	1.9354	16 27 15.4	10.010	19	11 40 36.83	1.8147	7 24 26.6	12.313
20	10 12 56.08	1.9320	16 17 12.8	10.076	20	11 42 25.67	1.8133	7 12 6.9	12.343
21	10 14 51.90	1.9286	16 7 6.3	10.141	21	11 44 14.42	1.8119	6 59 45.4	12.372
22	10 16 47.51	1.9253	15 56 55.9	10.206	22	11 46 3.10	1.8106	6 47 22.2	12.400
23	10 18 42.93	1.9220	15 46 41.6	10.271	23	11 47 51.70	1.8094	6 34 57.4	12.428
24	10 20 38.15	1.9187	N. 15° 36' 23.4	10.334	24	11 49 40.23	1.8083	N. 6° 22' 30.9	12.455

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25..					FRIDAY 27.				
0	11 49 40.23	1.8063	N. 6 22 30.9	12.455	0	13 16 12.48	1.8906	S. 3 52 21.9	12.889
1	11 51 28.69	1.8072	6 10 2.8	12.481	1	13 18 1.77	1.8924	4 5 15.0	12.880
2	11 53 17.09	1.8061	5 57 33.2	12.505	2	13 19 51.17	1.8942	4 18 7.5	12.870
3	11 55 5.42	1.8050	5 45 2.2	12.529	3	13 21 40.68	1.8960	4 30 59.4	12.860
4	11 56 53.69	1.8041	5 32 29.7	12.553	4	13 23 30.31	1.8978	4 43 50.7	12.849
5	11 58 41.91	1.8032	5 19 55.8	12.577	5	13 25 20.06	1.8309	4 56 41.3	12.837
6	12 0 30.08	1.8024	5 7 20.5	12.599	6	13 27 9.93	1.8323	5 9 31.2	12.825
7	12 2 18.20	1.8016	4 54 43.9	12.621	7	13 28 59.93	1.8344	5 22 20.3	12.812
8	12 4 6.27	1.8006	4 42 6.0	12.649	8	13 30 50.06	1.8367	5 35 8.6	12.797
9	12 5 54.30	1.8002	4 29 26.9	12.662	9	13 32 40.33	1.8390	5 47 56.0	12.782
10	12 7 42.29	1.7996	4 16 46.6	12.681	10	13 34 30.74	1.8413	6 0 42.5	12.767
11	12 9 30.25	1.7991	4 4 5.2	12.700	11	13 36 21.29	1.8437	6 13 28.0	12.750
12	12 11 18.18	1.7986	3 51 22.6	12.718	12	13 38 11.99	1.8462	6 26 12.5	12.733
13	12 13 6.08	1.7981	3 38 39.0	12.735	13	13 40 2.84	1.8488	6 38 56.0	12.715
14	12 14 53.95	1.7977	3 25 54.4	12.752	14	13 41 53.85	1.8514	6 51 38.3	12.696
15	12 16 41.80	1.7973	3 13 8.8	12.768	15	13 43 45.01	1.8541	7 4 19.5	12.677
16	12 18 29.63	1.7971	3 0 22.2	12.783	16	13 45 36.34	1.8569	7 16 59.5	12.656
17	12 20 17.45	1.7969	2 47 34.8	12.798	17	13 47 27.84	1.8597	7 29 38.2	12.634
18	12 22 5.26	1.7968	2 34 46.5	12.812	18	13 49 19.51	1.8626	7 42 15.6	12.612
19	12 23 53.06	1.7967	2 21 57.4	12.824	19	13 51 11.35	1.8656	7 54 51.7	12.590
20	12 25 40.86	1.7966	2 9 7.6	12.837	20	13 53 3.38	1.8687	8 7 26.4	12.566
21	12 27 28.65	1.7966	1 56 17.0	12.849	21	13 54 55.59	1.8718	8 19 59.6	12.541
22	12 29 16.45	1.7967	1 43 25.7	12.860	22	13 56 47.99	1.8749	8 32 31.3	12.515
23	12 31 4.26	1.7969	N. 1 30 33.8	12.869	23	13 58 40.58	1.8781	S. 8 45 1.4	12.488
THURSDAY 26.					SATURDAY 28.				
0	12 32 52.08	1.7971	N. 1 17 41.4	12.878	0	14 0 33.36	1.8813	S. 8 57 29.9	12.462
1	12 34 39.91	1.7973	1 4 48.4	12.887	1	14 2 26.34	1.8847	9 9 56.8	12.434
2	12 36 27.76	1.7977	0 51 54.9	12.896	2	14 4 19.53	1.8882	9 22 22.0	12.405
3	12 38 15.63	1.7981	0 39 0.9	12.903	3	14 6 12.92	1.8917	9 34 45.4	12.375
4	12 40 3.53	1.7986	0 26 6.5	12.909	4	14 8 6.53	1.8952	9 47 7.0	12.345
5	12 41 51.46	1.7990	0 13 11.8	12.915	5	14 10 0.35	1.8988	9 59 26.8	12.314
6	12 43 39.41	1.7995	N. 0 0 16.7	12.921	6	14 11 54.39	1.9026	10 11 44.7	12.282
7	12 45 27.40	1.8002	S. 0 12 38.7	12.925	7	14 13 48.66	1.9063	10 24 0.6	12.248
8	12 47 15.44	1.8010	0 25 34.3	12.929	8	14 15 43.15	1.9101	10 36 14.5	12.214
9	12 49 3.52	1.8017	0 38 30.1	12.933	9	14 17 37.87	1.9140	10 48 26.3	12.179
10	12 50 51.64	1.8025	0 51 26.1	12.934	10	14 19 32.83	1.9180	11 0 36.0	12.144
11	12 52 39.82	1.8034	1 4 22.2	12.936	11	14 21 28.03	1.9219	11 12 43.6	12.107
12	12 54 28.05	1.8043	1 17 18.4	12.937	12	14 23 23.46	1.9259	11 24 48.9	12.069
13	12 56 16.34	1.8053	1 30 14.6	12.937	13	14 25 19.14	1.9301	11 36 51.9	12.031
14	12 58 4.69	1.8064	1 43 10.8	12.936	14	14 27 15.08	1.9344	11 48 52.6	11.992
15	12 59 53.11	1.8076	1 56 6.9	12.934	15	14 29 11.27	1.9387	12 0 50.9	11.951
16	13 1 41.60	1.8088	2 9 2.9	12.931	16	14 31 7.72	1.9430	12 12 46.7	11.909
17	13 3 30.16	1.8100	2 21 58.7	12.928	17	14 33 4.43	1.9474	12 24 40.0	11.867
18	13 5 18.80	1.8113	2 34 54.3	12.925	18	14 35 1.41	1.9519	12 36 30.7	11.823
19	13 7 7.52	1.8127	2 47 49.7	12.922	19	14 36 58.66	1.9564	12 48 18.8	11.779
20	13 8 56.33	1.8142	3 0 44.9	12.918	20	14 38 56.18	1.9610	13 0 4.2	11.734
21	13 10 45.23	1.8157	3 13 39.8	12.911	21	14 40 53.98	1.9657	13 11 46.9	11.688
22	13 12 34.22	1.8172	3 26 34.3	12.904	22	14 42 52.06	1.9704	13 23 26.8	11.641
23	13 14 23.30	1.8188	3 39 28.3	12.897	23	14 44 50.43	1.9752	13 35 3.8	11.592
24	13 16 12.48	1.8206	S. 3 52 21.9	12.889	24	14 46 49.09	1.9801	S. 13 46 37.9	11.543

GREENWICH MEAN TIME.

PHASES OF THE MOON.

 Last Quarter	.	.	.	.	.	.	.	Feb.	d 1	h 16	m 42.1
 New Moon	.	.	.	.	.	.	.		8	14	12.2
 First Quarter	.	.	.	.	.	.	.		15	6	29.5
 Full Moon	.	.	.	.	.	.	.		23	7	18.4

[illegible]

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Pollux W.	102° 12' 32"	2870	103° 45' 29"	2858	105° 18' 42"	2844	106° 52' 13"	2831
	Regulus W.	66 5 58	2878	67 38 45	2865	69 11 49	2850	70 45 12	2836
	SATURN W.	48 17 48	2852	49 51 8	2838	51 24 46	2824	52 58 43	2810
	Antares E.	34 40 12	2915	33 8 12	2905	31 36 0	2897	30 3 37	2889
	VENUS E.	51 41 54	3227	50 16 17	3215	48 50 26	3203	47 24 20	3189
	SUN E.	97 58 18	3247	96 33 4	3231	95 7 32	3217	93 41 43	3202
2	Regulus W.	78 36 53	2760	80 12 14	2743	81 47 57	2726	83 24 2	2710
	SATURN W.	60 53 16	2732	62 29 13	2716	64 5 31	2700	65 42 11	2683
	Spica W.	24 58 49	2872	26 31 44	2844	28 5 15	2816	29 39 22	2790
	VENUS E.	40 9 50	3122	38 42 7	3108	37 14 7	3095	35 45 51	3081
	SUN E.	86 27 54	3119	85 0 8	3102	83 32 1	3085	82 3 33	3066
3	Regulus W.	91 30 12	2621	93 8 38	2603	94 47 29	2585	96 26 45	2566
	SATURN W.	73 51 23	2594	75 30 26	2575	77 9 55	2557	78 49 49	2538
	Spica W.	37 38 15	2669	39 15 36	2646	40 53 28	2624	42 31 50	2603
	VENUS E.	28 20 30	3020	26 50 42	3012	25 20 44	3005	23 50 38	3001
	SUN E.	74 35 27	2972	73 4 39	2952	71 33 26	2932	70 1 48	2912
4	SATURN W.	87 15 53	2443	88 58 26	2424	90 41 26	2405	92 24 54	2386
	Spica W.	50 51 3	2496	52 32 22	2475	54 14 10	2454	55 56 28	2433
	SUN E.	62 17 18	2811	60 43 5	2792	59 8 26	2772	57 33 22	2752
5	Spica W.	64 35 12	2333	66 20 23	2315	68 6 1	2296	69 52 7	2277
	Antares W.	18 57 31	2451	20 39 53	2409	22 23 15	2373	24 7 28	2341
	SUN E.	49 31 27	2655	47 53 47	2636	46 15 41	2618	44 37 11	2601
6	Spica W.	78 49 20	2190	80 38 3	2173	82 27 11	2158	84 16 42	2143
	Antares W.	32 58 52	2218	34 46 53	2197	36 35 25	2178	38 24 26	2159
	SUN E.	36 18 55	2522	34 38 13	2510	32 57 13	2497	31 15 56	2486
7	Spica W.	93 29 44	2077	95 21 19	2065	97 13 12	2055	99 5 21	2044
	Antares W.	47 36 1	2082	49 27 28	2068	51 19 16	2056	53 11 23	2045
	SUN E.	22 46 33	2465	21 4 30	2470	19 22 35	2482	17 40 56	2502
10	SUN W.	20 44 14	2397	22 27 53	2391	24 11 41	2387	25 55 34	2387
	MARS E.	29 55 59	2253	28 8 51	2267	26 22 3	2263	24 35 39	2302
	α Arietis E.	56 18 5	2153	54 28 27	2169	52 39 13	2186	50 50 24	2204
	Aldebaran E.	86 9 37	2006	84 16 12	2014	82 22 59	2021	80 29 58	2030
11	SUN W.	34 34 10	2414	36 17 25	2424	38 0 26	2434	39 43 12	2446
	α Arietis E.	41 54 14	2330	40 8 58	2364	38 24 31	2401	36 40 57	2443
	Aldebaran E.	71 8 37	2084	69 17 13	2097	67 26 9	2111	65 35 26	2124
	Pollux E.	115 16 22	2073	113 24 42	2066	111 33 21	2099	109 42 20	2111
12	SUN W.	48 12 30	2516	49 53 21	2531	51 33 51	2548	53 13 58	2565
	Aldebaran E.	56 27 23	2202	54 38 58	2218	52 50 58	2237	51 3 25	2254
	Pollux E.	100 32 25	2184	98 43 33	2200	96 55 5	2216	95 7 1	2232
13	SUN W.	61 28 38	2653	63 6 21	2671	64 43 40	2689	66 20 34	2708
	α Pegasi W.	40 34 56	3388	41 57 26	3333	43 20 59	3288	44 45 25	3248
	Aldebaran E.	42 12 26	2150	40 27 40	2371	38 43 23	2391	36 59 36	2414

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Pollux W.	108 26 1	2816	110 0 8	2801	111 34 35	2786	113 9 21	2771
	Regulus W.	72 18 53	2821	73 52 53	2806	75 27 13	2791	77 1 53	2775
	SATURN W.	54 32 58	2795	56 7 32	2780	57 42 26	2764	59 17 41	2749
	Antares E.	28 31 4	2881	26 58 21	2876	25 25 31	2871	23 52 35	2869
	VENUS E.	45 57 58	3177	44 31 21	3163	43 4 27	3149	41 37 17	3135
	SUN E.	92 15 36	3186	90 49 10	3170	89 22 25	3153	87 55 20	3136
2	Regulus W.	85 0 29	2692	86 37 19	2675	88 14 33	2657	89 52 10	2639
	SATURN W.	67 19 14	2666	68 56 40	2648	70 34 30	2630	72 12 44	2612
	Spica W.	31 14 3	2764	32 49 18	2740	34 25 5	2716	36 1 24	2692
	VENUS E.	34 17 18	3068	32 48 29	3056	31 19 25	3043	29 50 5	3030
	SUN E.	80 34 42	3047	79 5 28	3029	77 35 51	3010	76 5 51	2991
3	Regulus W.	98 6 27	2547	99 46 35	2529	101 27 8	2510	103 8 8	2491
	SATURN W.	80 30 9	2520	82 10 55	2500	83 52 8	2482	85 33 47	2462
	Spica W.	44 10 41	2581	45 50 2	2559	47 29 53	2538	49 10 13	2517
	VENUS E.	22 20 27	3001	20 50 16	3004	19 20 8	3011	17 50 9	3023
	SUN E.	68 29 45	2893	66 57 17	2873	65 24 23	2852	63 51 3	2833
4	SATURN W.	94 8 49	2367	95 53 11	2348	97 38 1	2329	99 23 18	2310
	Spica W.	57 39 15	2413	59 22 31	2393	61 6 16	2373	62 50 30	2353
	SUN E.	55 57 51	2732	54 21 54	2712	52 45 30	2693	51 8 41	2675
5	Spica W.	71 38 41	2258	73 25 42	2241	75 13 9	2223	77 1 2	2206
	Antares W.	25 52 28	2313	27 38 9	2287	29 24 28	2262	31 11 23	2239
	SUN E.	42 58 17	2583	41 18 59	2567	39 39 19	2551	37 59 17	2537
6	Spica W.	86 6 36	2128	87 56 52	2115	89 47 29	2101	91 38 27	2088
	Antares W.	40 13 55	2142	42 3 50	2125	43 54 11	2110	45 44 55	2096
	SUN E.	29 34 23	2477	27 52 37	2470	26 10 41	2465	24 28 38	2463
7	Spica W.	100 57 46	2035	102 50 25	2027	104 43 17	2020	106 36 20	2013
	Antares W.	55 3 47	2034	56 56 28	2025	58 49 23	2016	60 42 32	2009
	SUN E.	15 59 45	2535	14 19 20	2585	12 40 5	2666	11 2 39	2805
10	SUN W.	27 39 28	2389	29 23 19	2392	31 7 5	2398	32 50 43	2405
	MARS E.	22 49 42	2324	21 4 17	2349	19 19 29	2379	17 35 24	2413
	α Arietis E.	49 2 3	2225	47 14 12	2247	45 26 55	2272	43 40 14	2300
	Aldebaran E.	78 37 10	2039	76 44 37	2050	74 52 20	2061	73 0 20	2072
11	SUN W.	41 25 41	2459	43 7 52	2472	44 49 45	2486	46 31 18	2501
	α Arietis E.	34 58 23	2489	33 16 54	2542	31 36 39	2601	29 57 46	2669
	Aldebaran E.	63 45 4	2139	61 55 4	2154	60 5 27	2169	58 16 13	2185
	Pollux E.	107 51 38	2125	106 1 17	2139	104 11 17	2154	102 21 40	2169
12	SUN W.	54 53 41	2582	56 33 1	2599	58 11 58	2617	59 50 30	2635
	Aldebaran E.	49 16 18	2272	47 29 38	2291	45 43 26	2311	43 57 42	2330
	Pollux E.	93 19 21	2249	91 32 6	2265	89 45 15	2283	87 58 50	2300
13	SUN W.	67 57 3	2727	69 33 7	2746	71 8 46	2765	72 44 0	2783
	α Pegasi W.	46 10 37	3215	47 36 28	3188	49 2 51	3166	50 29 41	3148
	Aldebaran E.	35 16 21	2436	33 33 38	2450	31 51 27	2483	30 9 50	2507

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
13	Pollux E.	86° 12' 50"	2317	84° 27' 16"	2335	82° 42' 7"	2353	80° 57' 24"	2370
	Regulus E.	122 19 16	2328	120 33 57	2344	118 49 2	2362	117 4 32	2378
14	SUN W.	74 18 50	2602	75 53 15	2621	77 27 15	2639	79 0 52	2659
	α Pegasi W.	51 56 53	3132	53 24 24	3120	54 52 9	3111	56 20 5	3104
	MARS W.	25 48 48	2748	27 24 24	2761	28 59 43	2775	30 34 44	2788
	Pollux E.	72 20 11	2460	70 38 1	2477	68 56 15	2494	67 14 54	2512
	Regulus E.	108 28 11	2465	106 46 9	2482	105 4 31	2500	103 23 18	2517
15	SUN W.	86 42 58	2948	88 14 14	2967	89 45 8	2985	91 15 40	3002
	α Pegasi W.	63 41 3	3098	65 9 15	3101	66 37 24	3105	68 5 28	3110
	MARS W.	38 25 5	2864	39 58 10	2879	41 30 56	2894	43 3 22	2910
	Pollux E.	58 54 14	2599	57 15 17	2615	55 36 42	2632	53 58 30	2648
	Regulus E.	95 3 4	2601	93 24 10	2618	91 45 39	2633	90 7 29	2649
16	SUN W.	98 43 4	3085	100 11 32	3100	101 39 42	3115	103 7 33	3131
	α Pegasi W.	75 24 1	3144	76 51 17	3153	78 18 22	3163	79 45 16	3172
	MARS W.	50 40 42	2985	52 11 14	2999	53 41 28	3013	55 11 25	3027
	α Arietis W.	31 45 56	3120	33 13 41	3101	34 41 49	3087	36 10 15	3074
	Pollux E.	45 52 56	2727	44 16 52	2742	42 41 8	2757	41 5 44	2772
	Regulus E.	82 1 56	2725	80 25 49	2740	78 50 2	2753	77 14 33	2768
17	SUN W.	110 22 20	3201	111 48 28	3214	113 14 20	3228	114 39 56	3240
	α Pegasi W.	86 56 51	3224	88 22 32	3235	89 48 0	3246	91 13 15	3258
	α Arietis W.	43 35 3	3050	45 4 14	3049	46 33 26	3049	48 2 38	3051
	Pollux E.	33 13 32	2844	31 40 1	2859	30 6 49	2873	28 33 56	2887
	Regulus E.	69 21 36	2833	67 47 51	2845	66 14 21	2857	64 41 7	2868
	Spica E.	123 22 9	2850	121 48 46	2860	120 15 36	2870	118 42 39	2881
18	SUN W.	121 44 24	3300	123 8 36	3309	124 32 37	3319	125 56 26	3331
	α Pegasi W.	98 16 0	3319	99 39 50	3332	101 3 24	3345	102 26 43	3358
	α Arietis W.	55 28 0	3065	56 56 53	3068	58 25 42	3072	59 54 26	3075
	Aldebaran W.	24 8 52	3004	25 39 0	3004	27 9 8	3004	28 39 16	3004
	Regulus E.	56 58 29	2922	55 26 38	2932	53 55 0	2942	52 23 34	2950
	SATURN E.	73 30 46	2883	71 58 5	2891	70 25 35	2901	68 53 17	2909
	Spica E.	111 1 9	2929	109 29 27	2937	107 57 55	2946	106 26 34	2954
19	α Pegasi W.	109 19 19	3432	110 40 59	3448	112 2 21	3465	113 23 24	3482
	α Arietis W.	67 16 53	3096	68 45 7	3101	70 13 16	3105	71 41 19	3109
	Aldebaran W.	36 9 26	3018	37 39 17	3022	39 9 3	3025	40 38 45	3029
	Regulus E.	44 49 14	2995	43 18 55	3003	41 48 46	3012	40 18 48	3020
	SATURN E.	61 14 22	2948	59 43 4	2954	58 11 54	2962	56 40 53	2969
	Spica E.	98 52 19	2991	97 21 55	2998	95 51 40	3004	94 21 32	3010
20	α Arietis W.	79 0 25	3129	80 28 0	3132	81 55 31	3135	83 22 58	3139
	Aldebaran W.	48 6 6	3047	49 35 21	3050	51 4 32	3053	52 33 39	3056
	Regulus E.	32 51 29	3061	31 22 32	3070	29 53 46	3079	28 25 11	3089
	SATURN E.	49 7 46	2997	47 37 29	3002	46 7 19	3007	44 37 15	3012
	Spica E.	86 52 43	3038	85 23 17	3043	83 53 57	3047	82 24 42	3052
21	α Arietis W.	90 39 8	3156	92 6 10	3158	93 33 9	3162	95 0 4	3165
	Aldebaran W.	59 58 19	3070	61 27 5	3073	62 55 48	3074	64 24 29	3076

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
13	Pollux E.	79° 13' 6"	3388	77° 29' 14"	3406	75° 45' 48"	3424	74° 2' 47"	3441
	Regulus E.	115 20 26	3386	113 36 45	3413	111 53 29	3431	110 10 38	3448
14	SUN W.	80 34 4	3377	82 6 52	3395	83 39 17	33913	85 11 19	3331
	α Pegasi W.	57 48 10	3100	59 16 20	3096	60 44 34	3096	62 12 40	3096
	MARS W.	32 9 27	2803	33 43 51	2818	35 17 55	2833	36 51 40	2848
	Pollux E.	65 33 58	2530	63 53 26	2547	62 13 18	2564	60 33 34	2582
	Regulus E.	101 42 28	2534	100 2 2	2551	98 22 0	2568	96 42 21	2584
15	SUN W.	92 45 50	3019	94 15 39	3035	95 45 6	3052	97 14 16	3069
	α Pegasi W.	69 33 26	3115	71 1 17	3121	72 29 1	3129	73 56 36	3137
	MARS W.	44 35 28	2925	46 7 15	2940	47 38 43	2955	49 9 52	2970
	Pollux E.	52 20 40	2664	50 43 12	2681	49 6 6	2696	47 29 21	2711
	Regulus E.	88 29 41	2665	86 52 14	2681	85 15 8	2695	83 38 22	2710
16	SUN W.	104 35 5	3146	106 2 19	3159	107 29 17	3174	108 55 57	3188
	α Pegasi W.	81 11 59	3182	82 38 30	3191	84 4 50	3202	85 30 57	3213
	MARS W.	56 41 4	3040	58 10 27	3054	59 39 33	3067	61 8 23	3080
	α Arietis W.	37 38 56	3065	39 7 48	3059	40 36 48	3054	42 5 54	3052
	Pollux E.	39 30 40	2787	37 55 55	2801	36 21 29	2815	34 47 21	2830
	Regulus E.	75 39 23	2781	74 4 30	2795	72 29 55	2808	70 55 37	2821
17	SUN W.	116 5 18	3253	117 30 25	3265	118 55 18	3276	120 19 57	3287
	α Pegasi W.	92 38 16	3269	94 3 4	3282	95 27 37	3294	96 51 56	3306
	α Arietis W.	49 31 48	3052	51 0 56	3055	52 30 1	3058	53 59 2	3060
	Pollux E.	27 1 21	2803	25 29 6	2818	23 57 10	2834	22 25 34	2850
	Regulus E.	63 8 7	2880	61 35 22	2891	60 2 51	2901	58 30 33	2912
	Spica E.	117 9 56	2891	115 37 26	2901	114 5 8	2911	112 33 3	2920
18	SUN W.	127 20 2	3341	128 43 28	3351	130 6 41	3359	131 29 44	3368
	α Pegasi W.	103 49 47	3372	105 12 35	3387	106 35 6	3401	107 57 21	3416
	α Arietis W.	61 23 6	3079	62 51 41	3084	64 20 10	3088	65 48 34	3092
	Aldebaran W.	30 9 24	3006	31 39 29	3008	33 9 32	3011	34 39 31	3014
	Regulus E.	50 52 19	2960	49 21 16	2969	47 50 24	2978	46 19 44	2986
	SATURN E.	67 21 10	2918	65 49 14	2925	64 17 27	2933	62 45 50	2940
	Spica E.	104 55 24	2962	103 24 24	2969	101 53 33	2977	100 22 52	2984
19	α Pegasi W.	114 44 8	3501	116 4 31	3519	117 24 34	3539	118 44 15	3560
	α Arietis W.	73 9 18	3113	74 37 12	3117	76 5 1	3121	77 32 45	3124
	Aldebaran W.	42 8 22	3032	43 37 55	3036	45 7 23	3039	46 36 47	3043
	Regulus E.	38 49 0	3098	37 19 22	3036	35 49 54	3044	34 20 36	3053
	SATURN E.	55 10 1	2974	53 39 16	2981	52 8 39	2986	50 38 9	2992
	Spica E.	92 51 32	3016	91 21 39	3022	89 51 54	3027	88 22 15	3033
20	α Arietis W.	84 50 20	3143	86 17 38	3146	87 44 52	3149	89 12 2	3153
	Aldebaran W.	54 2 42	3060	55 31 41	3062	57 0 37	3065	58 29 30	3068
	Regulus E.	26 56 48	3100	25 28 38	3110	24 0 41	3124	22 33 0	3139
	SATURN E.	43 7 17	3016	41 37 24	3021	40 7 37	3025	38 37 55	3030
	Spica E.	80 55 33	3056	79 26 29	3060	77 57 30	3064	76 28 36	3067
21	α Arietis W.	96 26 55	3168	97 53 43	3171	99 20 27	3173	100 47 8	3177
	Aldebaran W.	65 53 8	3078	67 21 45	3080	68 50 19	3082	70 18 51	3083

GREENWICH MEAN TIME.

LUNAR DISTANCES

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
21	Pollux W.	15° 56' 37"	3142	17° 23' 56"	3130	18° 51' 29"	3122	20° 19' 12"	3115
	SATURN E.	37 8 19	3034	35 38 48	3037	34 9 21	3041	32 39 59	3046
	Spica E.	74 59 46	3070	73 31 0	3073	72 2 18	3077	70 33 40	3080
	Antares E.	120 53 40	3067	119 24 50	3069	117 56 2	3071	116 27 17	3073
22	α Arietis W.	102 13 45	3179	103 40 19	3183	105 6 49	3185	106 33 16	3188
	Aldebaran W.	71 47 21	3084	73 15 50	3086	74 44 17	3087	76 12 43	3087
	Pollux W.	27 39 19	3098	29 7 31	3097	30 35 44	3096	32 3 59	3095
	Spica E.	63 11 22	3083	61 43 4	3095	60 14 48	3097	58 46 35	3099
	Antares E.	109 4 7	3081	107 35 34	3082	106 7 3	3083	104 38 33	3084
23	Aldebaran W.	83 34 42	3090	85 3 4	3090	86 31 26	3090	87 59 48	3089
	Pollux W.	39 25 32	3090	40 53 54	3088	42 22 18	3087	43 50 43	3087
	Spica E.	51 26 4	3108	49 58 4	3110	48 30 7	3111	47 2 11	3114
	Antares E.	97 16 16	3087	95 47 50	3087	94 19 24	3087	92 50 58	3086
24	Aldebaran W.	95 21 47	3087	96 50 13	3065	98 18 41	3084	99 47 10	3083
	Pollux W.	51 13 8	3080	52 41 42	3078	54 10 18	3077	55 38 56	3074
	Regulus W.	15 31 30	3239	16 56 53	3211	18 22 49	3189	19 49 11	3171
	Spica E.	39 43 8	3124	38 15 27	3197	36 47 50	3129	35 20 16	3132
	Antares E.	85 28 38	3083	84 0 8	3082	82 31 36	3080	81 3 2	3079
	VENUS E.	125 33 26	3519	124 13 15	3510	122 53 2	3507	121 32 46	3506
25	Aldebaran W.	107 10 2	3074	108 38 43	3072	110 7 27	3069	111 36 14	3067
	Pollux W.	63 2 47	3063	64 31 42	3060	66 0 41	3057	67 29 43	3054
	Regulus W.	27 5 27	3114	28 33 20	3105	30 1 23	3098	31 29 35	3091
	Spica E.	28 3 37	3159	26 36 39	3168	25 9 52	3179	23 43 18	3192
	Antares E.	73 39 45	3069	72 10 58	3068	70 42 9	3065	69 13 16	3062
	VENUS E.	114 50 47	3492	113 30 14	3488	112 9 37	3485	110 48 57	3482
26	Pollux W.	74 55 57	3035	76 25 26	3030	77 55 1	3026	79 24 41	3022
	Regulus W.	38 52 35	3060	40 21 34	3053	41 50 41	3047	43 19 56	3041
	SATURN W.	22 49 30	3032	24 19 3	3024	25 48 46	3017	27 18 38	3009
	Antares E.	61 48 0	3047	60 18 45	3043	58 49 25	3039	57 20 1	3034
	VENUS E.	104 4 34	3462	102 43 27	3457	101 22 15	3453	100 0 58	3447
	α Aquilæ E.	107 43 34	3886	106 30 0	3867	105 16 7	3851	104 1 57	3836
27	Pollux W.	86 54 36	2994	88 24 56	2988	89 55 24	2981	91 26 0	2975
	Regulus W.	50 48 5	3008	52 18 8	3001	53 48 19	2994	55 18 39	2986
	SATURN W.	34 50 12	2974	36 20 57	2966	37 51 52	2959	39 22 56	2952
	Antares E.	49 51 39	3013	48 21 42	3007	46 51 38	3002	45 21 28	2997
	VENUS E.	93 12 59	3418	91 51 3	3411	90 28 59	3404	89 6 47	3396
	α Aquilæ E.	97 47 30	3771	96 31 58	3760	95 16 14	3750	94 0 20	3741
	SUN E.	139 26 9	3404	138 3 57	3394	136 41 34	3386	135 19 2	3377
28	Pollux W.	99 1 14	2937	100 32 46	2928	102 4 29	2920	103 36 23	2910
	Regulus W.	62 52 47	2946	64 24 8	2937	65 55 40	2927	67 27 24	2918
	SATURN W.	47 0 42	2911	48 32 47	2902	50 5 3	2903	51 37 31	2893
	Antares E.	37 48 55	2969	36 18 4	2964	34 47 6	2958	33 16 1	2954
	VENUS E.	82 13 38	3357	80 50 32	3347	79 27 15	3338	78 3 48	3330
	α Aquilæ E.	87 38 31	3702	86 21 46	3696	85 4 55	3692	83 47 59	3687
	SUN E.	128 23 42	3330	127 0 5	3319	125 36 15	3309	124 12 14	3298

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
21	Pollux W.	21° 47' 3"	3110	23° 15' 0"	3105	24° 43' 3"	3103	26° 11' 9"	3100
	SATURN E.	31 10 43	3050	29 41 32	3053	28 12 25	3057	26 43 23	3062
	Spica E.	60 5 6	3062	67 36 35	3066	66 8 8	3067	64 39 43	3061
	Antares E.	114 58 35	3075	113 20 55	3077	112 1 17	3078	110 32 41	3080
22	α Arietis W.	107 59 40	3191	109 26 0	3193	110 52 17	3197	112 18 30	3200
	Aldebaran W.	77 41 9	3068	79 9 33	3068	80 37 57	3069	82 6 20	3060
	Pollux W.	33 32 15	3094	35 0 32	3092	36 28 51	3091	37 57 11	3091
	Spica E.	57 18 24	3101	55 50 16	3103	54 22 10	3105	52 54 6	3106
	Antares E.	103 10 4	3085	101 41 36	3086	100 13 9	3086	98 44 42	3087
23	Aldebaran W.	89 28 11	3069	90 56 34	3069	92 24 57	3067	93 53 22	3067
	Pollux W.	45 19 9	3066	46 47 36	3064	48 16 5	3069	49 44 36	3069
	Spica E.	45 34 18	3115	44 6 27	3117	42 38 38	3119	41 10 52	3121
	Antares E.	91 22 31	3086	89 54 4	3085	88 25 36	3084	86 57 7	3084
24	Aldebaran W.	101 15 40	3069	102 44 12	3079	104 12 47	3078	105 41 23	3076
	Pollux W.	57 7 37	3073	58 36 20	3070	60 5 6	3068	61 33 55	3065
	Regulus W.	21 15 55	3156	22 42 57	3143	24 10 14	3133	25 37 44	3129
	Spica E.	33 52 45	3136	32 25 19	3140	30 57 58	3146	29 30 44	3152
	Antares E.	79 34 27	3077	78 5 49	3076	76 37 10	3074	75 8 29	3072
	VENUS E.	120 12 28	3503	118 52 7	3500	117 31 43	3496	116 11 17	3495
25	Aldebaran W.	113 5 4	3065	114 33 57	3061	116 2 54	3058	117 31 55	3056
	Pollux W.	68 58 49	3051	70 27 59	3047	71 57 14	3043	73 26 33	3039
	Regulus W.	32 57 55	3064	34 26 24	3078	35 55 0	3072	37 23 44	3066
	Spica E.	22 16 59	3209	20 51 0	3230	19 25 26	3258	18 0 25	3292
	Antares E.	67 44 20	3060	66 15 21	3056	64 46 18	3053	63 17 11	3050
	VENUS E.	109 28 13	3479	108 7 25	3475	106 46 33	3471	105 25 36	3466
26	Pollux W.	80 54 27	3017	82 24 19	3011	83 54 18	3006	85 24 23	3000
	Regulus W.	44 49 18	3034	46 18 48	3028	47 48 26	3022	49 18 11	3015
	SATURN W.	28 48 39	3002	30 18 49	2995	31 49 8	2988	33 19 36	2981
	Antares E.	55 50 31	3030	54 20 56	3026	52 51 16	3022	51 21 30	3018
	VENUS E.	98 39 35	3442	97 18 6	3437	95 56 31	3430	94 34 48	3424
	α Aquilæ E.	102 47 32	3821	101 32 52	3808	100 17 58	3794	99 2 50	3783
27	Pollux W.	92 56 44	2968	94 27 37	2960	95 58 40	2953	97 29 52	2945
	Regulus W.	56 49 9	2979	58 19 48	2971	59 50 37	2962	61 21 37	2954
	SATURN W.	40 54 9	2944	42 25 32	2936	43 57 5	2928	45 28 48	2920
	Antares E.	43 51 11	2991	42 20 47	2986	40 50 17	2980	39 19 39	2975
	VENUS E.	87 44 27	3369	86 21 58	3362	84 59 21	3373	83 36 34	3365
	α Aquilæ E.	92 44 16	3731	91 28 2	3724	90 11 40	3715	88 55 9	3709
	SUN E.	133 56 19	3368	132 33 26	3359	131 10 23	3349	129 47 8	3339
28	Pollux W.	105 8 29	2901	106 40 46	2891	108 13 16	2882	109 45 58	2879
	Regulus W.	68 59 20	2909	70 31 28	2898	72 3 49	2888	73 36 23	2878
	SATURN W.	53 10 12	2873	54 43 5	2864	56 16 10	2854	57 49 28	2843
	Antares E.	31 44 50	2949	30 13 33	2944	28 42 10	2940	27 10 42	2936
	VENUS E.	76 40 9	3319	75 16 20	3308	73 52 18	3298	72 28 4	3288
	α Aquilæ E.	82 30 58	3683	81 13 53	3680	79 56 45	3677	78 39 34	3677
	SUN E.	122 48 0	3287	121 23 33	3276	119 58 53	3264	118 33 59	3253

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	[°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
SUN.	1	22 48 35.61	9.362	S. 7 34 33.5	+56.98	16 10.48	65.44	12 32.82	0.494
Mon.	2	22 52 20.04	9.342	7 11 42.8	57.26	16 10.23	65.37	12 20.73	0.514
Tues.	3	22 56 3.99	9.322	6 48 46.0	57.49	16 9.98	65.30	12 8.16	0.534
Wed.	4	22 59 47.48	9.304	6 25 43.3	+57.72	16 9.73	65.23	11 55.14	0.552
Thur.	5	23 3 30.54	9.286	6 2 35.2	57.94	16 9.47	65.16	11 41.68	0.570
Frid.	6	23 7 13.18	9.268	5 39 22.0	58.14	16 9.21	65.10	11 27.81	0.587
Sat.	7	23 10 55.42	9.252	5 16 4.1	+58.33	16 8.95	65.04	11 13.53	0.603
SUN.	8	23 14 37.27	9.236	4 52 42.0	58.50	16 8.69	64.98	10 58.87	0.619
Mon.	9	23 18 18.74	9.221	4 29 16.0	58.66	16 8.43	64.93	10 43.83	0.634
Tues.	10	23 21 59.87	9.207	4 5 46.5	+58.79	16 8.17	64.88	10 28.45	0.648
Wed.	11	23 25 40.67	9.193	3 42 14.0	58.91	16 7.91	64.83	10 12.73	0.662
Thur.	12	23 29 21.14	9.180	3 18 38.9	59.01	16 7.65	64.78	9 56.69	0.675
Frid.	13	23 33 1.30	9.167	2 55 1.5	+59.10	16 7.39	64.74	9 40.34	0.688
Sat.	14	23 36 41.18	9.155	2 31 22.3	59.17	16 7.13	64.70	9 23.71	0.700
SUN.	15	23 40 20.78	9.145	2 7 41.6	59.22	16 6.86	64.66	9 6.80	0.711
Mon.	16	23 44 0.13	9.135	1 43 59.9	+59.25	16 6.60	64.63	8 49.64	0.721
Tues.	17	23 47 39.25	9.125	1 20 17.5	59.26	16 6.33	64.60	8 32.27	0.730
Wed.	18	23 51 18.17	9.117	0 56 34.7	59.27	16 6.07	64.57	8 14.68	0.738
Thur.	19	23 54 56.88	9.110	0 32 52.0	+59.27	16 5.80	64.55	7 56.88	0.745
Frid.	20	23 58 35.43	9.104	S. 0 9 9.8	59.25	16 5.53	64.53	7 38.92	0.751
Sat.	21	0 2 13.83	9.098	N. 0 14 31.7	59.21	16 5.26	64.51	7 20.83	0.757
SUN.	22	0 5 52.12	9.093	0 38 12.0	+59.16	16 4.99	64.49	7 2.61	0.762
Mon.	23	0 9 30.30	9.089	1 1 50.8	59.09	16 4.72	64.48	6 44.29	0.766
Tues.	24	0 13 8.40	9.087	1 25 27.7	59.01	16 4.44	64.48	6 25.89	0.768
Wed.	25	0 16 46.44	9.085	1 49 2.5	+58.91	16 4.16	64.47	6 7.42	0.769
Thur.	26	0 20 24.46	9.084	2 12 34.9	58.80	16 3.88	64.47	5 48.94	0.770
Frid.	27	0 24 2.48	9.084	2 36 4.5	58.67	16 3.60	64.47	5 30.46	0.771
Sat.	28	0 27 40.51	9.086	2 59 30.9	+58.53	16 3.32	64.47	5 11.99	0.769
SUN.	29	0 31 18.58	9.088	3 22 53.9	58.38	16 3.04	64.48	4 53.56	0.767
Mon.	30	0 34 56.72	9.091	3 46 13.1	58.22	16 2.76	64.49	4 35.20	0.764
Tues.	31	0 38 34.95	9.095	4 9 28.2	58.04	16 2.47	64.50	4 16.93	0.760
Wed.	32	0 42 13.28	9.100	N. 4 32 38.8	+57.85	16 2.19	64.51	3 58.76	0.755

NOTE.—The mean time of semidiameter passing may be found by subtracting 0^s.18 from the sideral time.
 The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing;
 north declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
SUN.	1	^h 22 ^m 48 ^s 33.65	9.363	S. 7° 34' 45.4"	+56.98	^m 12 ^s 32.92	0.494	^h 22 ^m 36 ^s 0.73
Mon.	2	22 52 18.11	9.343	7 11 54.6	57.25	12 20.83	0.514	22 39 57.28
Tues.	3	22 56 2.10	9.323	6 48 57.6	57.50	12 8.26	0.534	22 43 53.84
Wed.	4	22 59 45.63	9.305	6 25 54.8	+57.73	11 55.24	0.552	22 47 50.39
Thur.	5	23 3 28.73	9.287	6 2 46.5	57.95	11 41.79	0.570	22 51 46.94
Frid.	6	23 7 11.41	9.270	5 39 33.1	58.15	11 27.92	0.587	22 55 43.49
Sat.	7	23 10 53.69	9.254	5 16 15.0	+58.34	11 13.64	0.603	22 59 40.05
SUN.	8	23 14 35.58	9.238	4 52 52.7	58.51	10 58.98	0.619	23 3 36.60
Mon.	9	23 18 17.10	9.223	4 29 26.5	58.67	10 43.94	0.634	23 7 33.16
Tues.	10	23 21 58.27	9.209	4 5 56.8	+58.80	10 28.56	0.648	23 11 29.71
Wed.	11	23 25 39.11	9.195	3 42 24.1	58.92	10 12.84	0.662	23 15 26.27
Thur.	12	23 29 19.62	9.182	3 18 48.7	59.02	9 56.80	0.675	23 19 22.82
Frid.	13	23 32 59.82	9.169	2 55 11.0	+59.11	9 40.45	0.688	23 23 19.37
Sat.	14	23 36 39.74	9.157	2 31 31.5	59.18	9 23.82	0.700	23 27 15.92
SUN.	15	23 40 19.39	9.146	2 7 50.6	59.23	9 6.91	0.711	23 31 12.48
Mon.	16	23 43 58.78	9.136	1 44 8.6	+59.25	8 49.75	0.721	23 35 9.03
Tues.	17	23 47 37.95	9.127	1 20 25.9	59.27	8 32.37	0.730	23 39 5.58
Wed.	18	23 51 16.91	9.119	0 56 42.9	59.28	8 14.78	0.738	23 43 2.13
Thur.	19	23 54 55.67	9.112	0 32 59.9	+59.28	7 56.98	0.745	23 46 58.69
Frid.	20	23 58 34.26	9.106	S. 0 9 17.4	59.26	7 39.02	0.751	23 50 55.24
Sat.	21	0 2 12.71	9.100	N. 0 14 24.4	59.22	7 20.92	0.757	23 54 51.79
SUN.	22	0 5 51.04	9.095	0 38 5.0	+59.17	7 2.70	0.762	23 58 48.34
Mon.	23	0 9 29.27	9.092	1 1 44.0	59.10	6 44.37	0.766	0 2 44.90
Tues.	24	0 13 7.42	9.089	1 25 21.3	59.02	6 25.97	0.768	0 6 41.45
Wed.	25	0 16 45.51	9.087	1 48 56.5	+58.92	6 7.50	0.769	0 10 38.01
Thur.	26	0 20 23.58	9.086	2 12 29.2	58.81	5 49.02	0.770	0 14 34.56
Frid.	27	0 24 1.64	9.086	2 35 59.1	58.68	5 30.53	0.771	0 18 31.11
Sat.	28	0 27 39.72	9.088	2 59 25.9	+58.54	5 12.06	0.769	0 22 27.66
SUN.	29	0 31 17.84	9.090	3 22 49.2	58.39	4 53.62	0.767	0 26 24.22
Mon.	30	0 34 56.03	9.093	3 46 8.7	58.23	4 35.26	0.764	0 30 20.77
Tues.	31	0 38 34.30	9.097	4 9 24.1	58.05	4 16.98	0.760	0 34 17.32
Wed.	32	0 42 12.68	9.102	N. 4 32 55.0	+57.86	3 58.81	0.755	0 38 13.87

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing; north declinations, increasing.

Diff. for 1 Hour,
+9.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	60	340° 39' 9.4	39' 16.5	150.43	+ 0.26	9.9961859	+46.5	^h 1 ^m 23 ^s 45.51
2	61	341 39 18.8	39 25.8	150.37	+ 0.13	9.9962982	47.0	1 19 49.60
3	62	342 39 26.6	39 33.5	150.30	— 0.01	9.9964116	47.5	1 15 53.69
4	63	343 39 32.9	39 39.7	150.23	— 0.13	9.9965260	+47.9	1 11 57.78
5	64	344 39 37.6	39 44.3	150.16	0.25	9.9966412	48.2	1 8 1.88
6	65	345 39 40.7	39 47.3	150.09	0.36	9.9967571	48.4	1 4 5.98
7	66	346 39 42.2	39 48.7	150.03	— 0.44	9.9968735	+48.6	1 0 10.07
8	67	347 39 41.9	39 48.3	149.96	0.49	9.9969903	48.7	0 56 14.16
9	68	348 39 39.8	39 46.1	149.88	0.51	9.9971074	48.8	0 52 18.25
10	69	349 39 35.8	39 42.0	149.80	— 0.51	9.9972247	+48.9	0 48 22.34
11	70	350 39.29.9	39 36.0	149.71	0.48	9.9973422	49.0	0 44 26.43
12	71	351 39 21.9	39 27.9	149.62	0.41	9.9974598	49.0	0 40 30.52
13	72	352 39 11.8	39 17.7	149.53	— 0.32	9.9975776	+49.1	0 36 34.62
14	73	353 38 59.6	39 5.4	149.44	0.21	9.9976956	49.2	0 32 38.71
15	74	354 38 45.2	38 50.9	149.35	— 0.09	9.9978138	49.3	0 28 42.80
16	75	355 38 28.5	38 34.1	149.26	+ 0.04	9.9979322	+49.4	0 24 46.89
17	76	356 38 9.5	38 15.0	149.16	0.19	9.9980510	49.6	0 20 50.99
18	77	357 37 48.2	37 53.6	149.07	0.32	9.9981703	49.8	0 16 55.09
19	78	358 37 24.7	37 30.0	148.97	+ 0.43	9.9982902	+50.0	0 12 59.18
20	79	359 36 58.9	37 4.1	148.88	0.52	9.9984107	50.3	0 9 3.28
21	80	0 36 30.8	36 35.8	148.78	0.59	9.9985320	50.7	0 5 7.37
22	81	1 36 0.4	36 5.3	148.69	+ 0.64	9.9986541	+51.0	{ 0 1 11.46 }
23	82	2 35 27.8	35 32.6	148.60	0.65	9.9987770	51.3	{ 23 57 15.55 }
24	83	3 34 53.1	34 57.8	148.51	0.63	9.9989007	51.6	23 53 19.64
25	84	4 34 16.3	34 20.9	148.43	+ 0.59	9.9990252	+52.0	23 49 23.73
26	85	5 33 37.5	33 42.0	148.34	0.52	9.9991506	52.4	23 45 27.82
27	86	6 32 56.7	33 1.1	148.26	0.43	9.9992768	52.7	23 41 31.91
28	87	7 32 13.9	32 18.2	148.18	+ 0.31	9.9994037	+53.0	23 37 36.01
29	88	8 31 29.3	31 33.5	148.10	0.18	9.9995312	53.2	23 33 40.11
30	89	9 30 42.9	30 47.0	148.02	+ 0.05	9.9996590	53.3	23 29 44.20
31	90	10 29 54.7	29 58.7	147.95	— 0.08	9.9997871	53.4	23 25 48.29
32	91	11 29 4.7	29 8.6	147.88	— 0.20	9.9999155	+53.4	23 21 52.39
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^d .0.								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 9.5	15' 14.6	55' 31.1	+1.48	55' 49.8	+1.63	16 41.9	1.97	20.4
2	15 20.1	15 26.2	56 10.2	1.78	56 32.4	1.92	17 31.1	2.14	21.4
3	15 32.6	15 39.5	56 56.2	2.04	57 21.4	2.14	18 24.5	2.31	22.4
4	15 46.7	15 54.0	57 47.7	+2.23	58 14.8	+2.28	19 22.1	2.46	23.4
5	16 1.5	16 8.9	58 42.2	2.28	59 9.4	2.24	20 22.8	2.55	24.4
6	16 16.1	16 22.9	59 35.8	2.14	60 0.8	2.00	21 24.6	2.55	25.4
7	16 29.1	16 34.6	60 23.7	+1.79	60 43.7	+1.52	22 25.4	2.48	26.4
8	16 39.1	16 42.5	61 0.2	1.21	61 12.6	0.84	23 23.7	2.37	27.4
9	16 44.6	16 45.4	61 20.4	+0.45	61 23.3	+0.03	δ		28.4
10	16 44.8	16 42.8	61 21.1	-0.40	61 13.8	-0.81	0 19.3	2.27	0.0
11	16 39.5	16 35.0	61 1.7	1.20	60 45.1	1.54	1 12.5	2.19	1.0
12	16 29.4	16 23.0	60 24.7	1.83	60 1.1	2.07	2 4.4	2.15	2.0
13	16 15.9	16 8.3	59 35.0	-2.25	59 7.1	-2.37	2 55.5	2.14	3.0
14	16 0.4	15 52.4	58 38.1	2.43	58 8.8	2.44	3 47.1	2.16	4.0
15	15 44.5	15 36.8	57 39.7	2.39	57 11.4	2.31	4 39.4	2.20	5.0
16	15 29.4	15 22.5	56 44.3	-2.19	56 18.8	-2.05	5 32.5	2.22	6.0
17	15 16.0	15 10.1	55 55.1	1.89	55 33.5	1.71	6 25.8	2.21	7.0
18	15 4.8	15 0.2	55 14.1	1.52	54 57.0	1.33	7 18.4	2.16	8.0
19	14 56.1	14 52.7	54 42.1	-1.14	54 29.6	-0.95	8 9.4	2.08	9.0
20	14 49.9	14 47.7	54 19.3	0.77	54 11.2	0.59	8 58.2	1.98	10.0
21	14 46.1	14 44.9	54 5.1	0.43	54 1.0	-0.26	9 44.5	1.88	11.0
22	14 44.3	14 44.2	53 58.8	-0.11	53 58.3	+0.03	10 28.4	1.79	12.0
23	14 44.5	14 45.2	53 59.4	+0.16	54 2.0	0.28	11 10.5	1.73	13.0
24	14 46.3	14 47.8	54 6.1	0.39	54 11.4	0.49	11 51.4	1.69	14.0
25	14 49.5	14 51.6	54 17.9	+0.59	54 25.5	+0.68	12 31.8	1.70	15.0
26	14 54.0	14 56.7	54 34.3	0.78	54 44.1	0.86	13 12.8	1.73	16.0
27	14 59.6	15 2.9	54 54.9	0.95	55 6.8	1.04	13 55.1	1.81	17.0
28	15 6.4	15 10.2	55 19.8	+1.13	55 33.8	+1.21	14 39.8	1.93	18.0
29	15 14.3	15 18.7	55 48.8	1.30	56 5.0	1.39	15 27.6	2.07	19.0
30	15 23.4	15 28.4	56 22.3	1.48	56 40.6	1.57	16 19.1	2.22	20.0
31	15 33.7	15 39.2	56 59.9	1.65	57 20.2	1.72	17 14.4	2.36	21.0
32	15 44.9	15 50.8	57 41.2	+1.78	58 2.8	+1.82	18 12.4	2.45	22.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	h m s 14 46 49.09	s 1.9801	S. 13° 46' 37.9	" 11.543	0	h m s 16 28 27.88	s 2.2713	S. 21° 43' 11.7	" 7.855
1	14 48 48.04	1.9850	13 53 9.0	11.493	1	16 30 44.36	2.2761	21 50 59.8	7.748
2	14 50 47.29	1.9900	14 9 37.1	11.442	2	16 33 1.25	2.2850	21 58 41.5	7.640
3	14 52 46.84	1.9950	14 21 2.1	11.397	3	16 35 18.56	2.2919	22 6 16.6	7.529
4	14 54 46.69	2.0000	14 32 23.9	11.337	4	16 37 36.28	2.2987	22 13 45.0	7.417
5	14 56 46.84	2.0051	14 43 42.5	11.282	5	16 39 54.41	2.3055	22 21 6.7	7.305
6	14 58 47.30	2.0103	14 54 57.7	11.226	6	16 42 12.94	2.3123	22 28 21.6	7.191
7	15 0 48.08	2.0156	15 6 9.6	11.170	7	16 44 31.88	2.3192	22 35 29.6	7.075
8	15 2 49.18	2.0210	15 17 18.1	11.112	8	16 46 51.24	2.3260	22 42 30.6	6.958
9	15 4 50.60	2.0263	15 28 23.1	11.054	9	16 49 11.00	2.3328	22 49 24.6	6.841
10	15 6 52.34	2.0317	15 39 24.6	10.995	10	16 51 31.17	2.3396	22 56 11.5	6.721
11	15 8 54.41	2.0373	15 50 22.5	10.934	11	16 53 51.75	2.3464	23 2 51.1	6.599
12	15 10 56.82	2.0429	16 1 16.7	10.872	12	16 56 12.74	2.3532	23 9 23.4	6.477
13	15 12 59.56	2.0485	16 12 7.1	10.809	13	16 58 34.13	2.3599	23 15 48.4	6.354
14	15 15 2.64	2.0542	16 22 53.8	10.746	14	17 0 55.92	2.3666	23 22 5.9	6.228
15	15 17 6.06	2.0598	16 33 36.6	10.680	15	17 3 18.12	2.3733	23 28 15.8	6.102
16	15 19 9.82	2.0656	16 44 15.4	10.613	16	17 5 40.72	2.3799	23 34 18.1	5.975
17	15 21 13.93	2.0714	16 54 50.2	10.546	17	17 8 3.71	2.3865	23 40 12.8	5.847
18	15 23 18.39	2.0772	17 5 20.9	10.477	18	17 10 27.10	2.3931	23 45 59.7	5.716
19	15 25 23.20	2.0832	17 15 47.4	10.408	19	17 12 50.88	2.3997	23 51 38.7	5.584
20	15 27 28.37	2.0892	17 26 9.8	10.338	20	17 15 15.06	2.4062	23 57 9.8	5.452
21	15 29 33.90	2.0952	17 36 28.0	10.267	21	17 17 39.63	2.4127	24 2 32.9	5.318
22	15 31 39.79	2.1013	17 46 41.8	10.193	22	17 20 4.58	2.4191	24 7 47.9	5.182
23	15 33 46.05	2.1074	S. 17° 56' 51.1	10.118	23	17 22 29.92	2.4255	S. 24° 12' 54.7	5.044
MONDAY 2.					WEDNESDAY 4.				
0	15 35 52.68	2.1136	S. 18° 6' 55.9	10.043	0	17 24 55.64	2.4318	S. 24° 17' 53.2	4.906
1	15 37 59.68	2.1197	18 16 56.2	9.967	1	17 27 21.74	2.4381	24 22 43.4	4.767
2	15 40 7.05	2.1259	18 26 51.9	9.888	2	17 29 48.21	2.4443	24 27 25.2	4.627
3	15 42 14.79	2.1322	18 36 42.8	9.808	3	17 32 15.06	2.4506	24 31 58.6	4.485
4	15 44 22.91	2.1386	18 46 28.9	9.728	4	17 34 42.28	2.4567	24 36 23.4	4.341
5	15 46 31.42	2.1450	18 56 10.2	9.647	5	17 37 9.86	2.4627	24 40 39.5	4.196
6	15 48 40.31	2.1513	19 5 46.6	9.565	6	17 39 37.80	2.4687	24 44 46.9	4.050
7	15 50 49.58	2.1577	19 15 18.0	9.481	7	17 42 6.10	2.4746	24 48 45.5	3.903
8	15 52 59.24	2.1642	19 24 44.3	9.395	8	17 44 34.75	2.4805	24 52 35.3	3.756
9	15 55 9.29	2.1707	19 34 5.4	9.308	9	17 47 3.76	2.4863	24 56 16.2	3.607
10	15 57 19.73	2.1772	19 43 21.3	9.221	10	17 49 33.11	2.4920	24 59 48.1	3.456
11	15 59 30.56	2.1838	19 52 31.9	9.132	11	17 52 2.80	2.4976	25 3 10.9	3.304
12	16 1 41.79	2.1905	20 1 37.2	9.042	12	17 54 32.82	2.5031	25 6 24.6	3.152
13	16 3 53.42	2.1971	20 10 37.0	8.950	13	17 57 3.17	2.5086	25 9 29.1	2.998
14	16 6 5.44	2.2037	20 19 31.2	8.857	14	17 59 33.85	2.5140	25 12 24.3	2.842
15	16 8 17.86	2.2104	20 28 19.8	8.763	15	18 2 4.85	2.5193	25 15 10.1	2.685
16	16 10 30.69	2.2171	20 37 2.7	8.668	16	18 4 36.16	2.5245	25 17 46.5	2.528
17	16 12 43.92	2.2238	20 45 39.9	8.571	17	18 7 7.79	2.5297	25 20 13.5	2.370
18	16 14 57.55	2.2306	20 54 11.2	8.472	18	18 9 39.72	2.5346	25 22 30.9	2.210
19	16 17 11.59	2.2373	21 2 36.6	8.373	19	18 12 11.94	2.5395	25 24 38.7	2.050
20	16 19 26.03	2.2441	21 10 56.0	8.272	20	18 14 44.46	2.5443	25 26 36.9	1.889
21	16 21 40.88	2.2509	21 19 9.3	8.170	21	18 17 17.26	2.5490	25 28 25.4	1.727
22	16 23 56.14	2.2577	21 27 16.4	8.066	22	18 19 50.34	2.5537	25 30 4.1	1.563
23	16 26 11.81	2.2645	21 35 17.2	7.961	23	18 22 23.70	2.5582	25 31 32.9	1.398
24	16 28 27.88	2.2713	S. 21° 43' 11.7	7.855	24	18 24 57.32	2.5625	S. 25° 32' 51.8	1.233

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	18 ^h 24 ^m 57.32 ^s	2.5695	S. 25° 32' 51".8	1.333	0	20 ^h 30 ^m 35.96 ^s	2.6913	S. 23° 11' 23".9	7.171
1	18 27 31.20	2.5698	25 34 0.8	1.067	1	20 33 13.18	2.6193	23 4 8.5	7.342
2	18 30 5.34	2.5710	25 34 59.8	0.900	2	20 35 50.28	2.6173	22 56 42.9	7.512
3	18 32 39.72	2.5750	25 35 48.8	0.739	3	20 38 27.26	2.6152	22 49 7.1	7.680
4	18 35 14.34	2.5789	25 36 27.7	0.563	4	20 41 4.11	2.6130	22 41 21.3	7.848
5	18 37 49.19	2.5827	25 36 56.4	0.393	5	20 43 40.82	2.6106	22 33 25.4	8.015
6	18 40 24.27	2.5865	25 37 14.9	0.223	6	20 46 17.38	2.6081	22 25 19.5	8.181
7	18 42 59.57	2.5901	25 37 23.2	- 0.052	7	20 48 53.79	2.6055	22 17 3.7	8.346
8	18 45 35.08	2.5934	25 37 21.2	+ 0.119	8	20 51 30.04	2.6027	22 8 38.0	8.509
9	18 48 10.78	2.5967	25 37 8.9	0.292	9	20 54 6.12	2.5999	22 0 2.6	8.672
10	18 50 46.68	2.5999	25 36 46.2	0.465	10	20 56 42.03	2.5971	21 51 17.4	8.834
11	18 53 22.77	2.6030	25 36 13.1	0.638	11	20 59 17.77	2.5942	21 42 22.5	8.995
12	18 55 59.04	2.6059	25 35 29.6	0.812	12	21 1 53.33	2.5911	21 33 18.0	9.154
13	18 58 35.48	2.6087	25 34 35.6	0.987	13	21 4 28.70	2.5879	21 24 4.0	9.312
14	19 1 12.09	2.6114	25 33 31.1	1.162	14	21 7 3.88	2.5846	21 14 40.5	9.469
15	19 3 48.85	2.6139	25 32 16.1	1.338	15	21 9 38.86	2.5813	21 5 7.7	9.624
16	19 6 25.76	2.6163	25 30 50.5	1.514	16	21 12 13.64	2.5780	20 55 25.6	9.779
17	19 9 2.81	2.6186	25 29 14.4	1.690	17	21 14 48.22	2.5745	20 45 34.2	9.932
18	19 11 39.99	2.6207	25 27 27.7	1.867	18	21 17 22.58	2.5709	20 35 33.7	10.084
19	19 14 17.30	2.6227	25 25 30.3	2.045	19	21 19 56.73	2.5673	20 25 24.1	10.235
20	19 16 54.72	2.6246	25 23 22.3	2.223	20	21 22 30.66	2.5637	20 15 5.5	10.383
21	19 19 32.25	2.6263	25 21 3.6	2.401	21	21 25 4.38	2.5601	20 4 38.1	10.530
22	19 22 9.88	2.6279	25 18 34.2	2.579	22	21 27 37.87	2.5569	19 54 1.9	10.677
23	19 24 47.60	2.6293	S. 25 15 54.1	2.757	23	21 30 11.12	2.5533	S. 19 43 16.9	10.822
FRIDAY 6.					SUNDAY 8.				
0	19 27 25.40	2.6306	S. 25 13 3.4	2.935	0	21 32 44.14	2.5484	S. 19 32 23.2	10.966
1	19 30 3.27	2.6317	25 10 1.9	3.114	1	21 35 16.93	2.5444	19 21 21.0	11.107
2	19 32 41.21	2.6328	25 6 49.7	3.293	2	21 37 49.47	2.5403	19 10 10.4	11.246
3	19 35 19.21	2.6337	25 3 26.8	3.473	3	21 40 21.77	2.5363	18 58 51.5	11.384
4	19 37 57.26	2.6345	24 59 53.1	3.651	4	21 42 53.83	2.5323	18 47 24.3	11.522
5	19 40 35.35	2.6351	24 56 8.7	3.829	5	21 45 25.64	2.5282	18 35 48.9	11.657
6	19 43 13.47	2.6356	24 52 13.6	4.007	6	21 47 57.21	2.5240	18 24 5.5	11.790
7	19 45 51.62	2.6359	24 48 7.8	4.186	7	21 50 28.52	2.5197	18 12 14.1	11.922
8	19 48 29.78	2.6360	24 43 51.3	4.365	8	21 52 59.58	2.5155	18 0 14.9	12.051
9	19 51 7.94	2.6360	24 39 24.0	4.543	9	21 55 30.38	2.5112	17 48 8.0	12.179
10	19 53 46.10	2.6360	24 34 46.1	4.721	10	21 58 0.92	2.5068	17 35 53.4	12.306
11	19 56 24.26	2.6358	24 29 57.5	4.899	11	22 0 31.20	2.5025	17 23 31.3	12.431
12	19 59 2.40	2.6355	24 24 58.2	5.077	12	22 3 1.22	2.4981	17 11 1.7	12.554
13	20 1 40.52	2.6350	24 19 48.3	5.254	13	22 5 30.97	2.4937	16 58 24.8	12.675
14	20 4 18.60	2.6344	24 14 27.7	5.431	14	22 8 0.46	2.4893	16 45 40.7	12.794
15	20 6 56.64	2.6337	24 8 56.5	5.607	15	22 10 29.69	2.4849	16 32 49.5	12.912
16	20 9 34.64	2.6328	24 3 14.8	5.783	16	22 12 58.65	2.4805	16 19 51.3	13.028
17	20 12 12.58	2.6317	23 57 22.5	5.959	17	22 15 27.35	2.4761	16 6 46.2	13.143
18	20 14 50.45	2.6306	23 51 19.7	6.134	18	22 17 55.78	2.4716	15 53 34.3	13.253
19	20 17 28.25	2.6294	23 45 6.4	6.308	19	22 20 23.94	2.4672	15 40 15.8	13.363
20	20 20 5.98	2.6281	23 38 42.7	6.483	20	22 22 51.84	2.4627	15 26 50.7	13.472
21	20 22 43.62	2.6266	23 32 8.5	6.657	21	22 25 19.46	2.4581	15 13 19.2	13.578
22	20 25 21.17	2.6250	23 25 23.9	6.829	22	22 27 46.81	2.4537	14 59 41.4	13.682
23	20 27 58.62	2.6232	23 18 29.0	7.000	23	22 30 13.90	2.4492	14 45 57.4	13.784
24	20 30 35.96	2.6213	S. 23 11 23.9	7.171	24	22 32 40.72	2.4447	S. 14 32 7.3	13.884

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	22 32 40.72	2.4447	S. 14 32 7.3	13.884	0	0 25 25.48	2.2701	S. 2 8 52.2	16.297
1	22 35 7.27	2.4403	14 18 11.3	13.962	1	0 27 41.61	2.2678	1 52 34.3	16.298
2	22 37 33.56	2.4359	14 4 9.4	14.079	2	0 29 57.61	2.2655	1 36 16.4	16.297
3	22 39 59.58	2.4315	13 50 1.8	14.173	3	0 32 13.47	2.2632	1 19 58.6	16.294
4	22 42 25.34	2.4271	13 35 48.6	14.266	4	0 34 29.20	2.2611	1 3 41.1	16.289
5	22 44 50.83	2.4227	13 21 29.9	14.356	5	0 36 44.80	2.2590	0 47 23.9	16.282
6	22 47 16.06	2.4183	13 7 5.9	14.443	6	0 39 0.28	2.2570	0 31 7.2	16.273
7	22 49 41.03	2.4140	12 52 36.7	14.530	7	0 41 15.64	2.2550	S. 0 14 51.1	16.263
8	22 52 5.74	2.4096	12 38 2.3	14.615	8	0 43 30.88	2.2530	N. 0 1 24.4	16.252
9	22 54 30.18	2.4053	12 23 22.9	14.697	9	0 45 46.00	2.2512	0 17 39.1	16.238
10	22 56 54.37	2.4010	12 8 38.6	14.777	10	0 48 1.02	2.2495	0 33 52.9	16.222
11	22 59 18.30	2.3967	11 53 49.6	14.855	11	0 50 15.94	2.2477	0 50 5.7	16.203
12	23 1 41.97	2.3924	11 38 56.0	14.931	12	0 52 30.75	2.2460	1 6 17.3	16.183
13	23 4 5.39	2.3882	11 23 57.9	15.005	13	0 54 45.46	2.2444	1 22 27.7	16.162
14	23 6 28.56	2.3842	11 8 55.4	15.077	14	0 57 0.08	2.2430	1 38 36.8	16.139
15	23 8 51.49	2.3801	10 53 48.7	15.147	15	0 59 14.62	2.2416	1 54 44.4	16.114
16	23 11 14.17	2.3759	10 38 37.8	15.215	16	1 1 29.07	2.2402	2 10 50.5	16.087
17	23 13 36.60	2.3718	10 23 22.9	15.280	17	1 3 43.44	2.2388	2 26 54.9	16.059
18	23 15 58.78	2.3677	10 8 4.2	15.343	18	1 5 57.72	2.2374	2 42 57.6	16.029
19	23 18 20.72	2.3637	9 52 41.7	15.405	19	1 8 11.93	2.2363	2 58 58.4	15.997
20	23 20 42.43	2.3598	9 37 15.6	15.465	20	1 10 26.07	2.2352	3 14 57.3	15.964
21	23 23 3.90	2.3559	9 21 45.9	15.522	21	1 12 40.15	2.2342	3 30 54.1	15.928
22	23 25 25.14	2.3521	9 6 12.9	15.577	22	1 14 54.17	2.2331	3 46 48.7	15.891
23	23 27 46.15	2.3483	S. 8 50 36.6	15.631	23	1 17 8.12	2.2320	N. 4 2 41.0	15.852
TUESDAY 10.					THURSDAY 12.				
0	23 30 6.93	2.3445	S. 8 34 57.2	15.682	0	1 19 22.01	2.2311	N. 4 18 31.0	15.812
1	23 32 27.49	2.3407	8 19 14.8	15.731	1	1 21 35.85	2.2303	4 34 18.5	15.770
2	23 34 47.82	2.3370	8 3 29.5	15.777	2	1 23 49.65	2.2296	4 50 3.4	15.727
3	23 37 7.93	2.3334	7 47 41.5	15.822	3	1 26 3.40	2.2289	5 5 45.7	15.682
4	23 39 27.83	2.3299	7 31 50.8	15.866	4	1 28 17.11	2.2282	5 21 25.2	15.635
5	23 41 47.52	2.3263	7 15 57.6	15.907	5	1 30 30.78	2.2276	5 37 1.9	15.587
6	23 44 6.99	2.3228	7 0 2.0	15.946	6	1 32 44.42	2.2271	5 52 35.7	15.537
7	23 46 26.26	2.3195	6 44 4.1	15.982	7	1 34 58.03	2.2266	6 8 6.4	15.486
8	23 48 45.33	2.3162	6 28 4.1	16.017	8	1 37 11.61	2.2261	6 23 34.0	15.432
9	23 51 4.20	2.3128	6 12 2.1	16.049	9	1 39 25.16	2.2257	6 38 58.3	15.377
10	23 53 22.87	2.3095	5 55 58.2	16.080	10	1 41 38.69	2.2254	6 54 19.3	15.322
11	23 55 41.34	2.3063	5 39 52.5	16.108	11	1 43 52.21	2.2252	7 9 37.0	15.265
12	23 57 59.62	2.3032	5 23 45.2	16.134	12	1 46 5.71	2.2249	7 24 51.1	15.205
13	0 0 17.72	2.3002	5 7 36.4	16.159	13	1 48 19.20	2.2248	7 40 1.6	15.145
14	0 2 35.64	2.2972	4 51 26.1	16.182	14	1 50 32.69	2.2247	7 55 8.5	15.083
15	0 4 53.38	2.2942	4 35 14.5	16.202	15	1 52 46.17	2.2247	8 10 11.6	15.019
16	0 7 10.94	2.2912	4 19 1.8	16.221	16	1 54 59.65	2.2247	8 25 10.3	14.954
17	0 9 28.32	2.2883	4 2 48.0	16.237	17	1 57 13.13	2.2247	8 40 6.1	14.888
18	0 11 45.53	2.2855	3 46 33.3	16.252	18	1 59 26.62	2.2248	8 54 57.4	14.821
19	0 14 2.58	2.2828	3 30 17.8	16.264	19	2 1 40.11	2.2249	9 9 44.6	14.752
20	0 16 19.47	2.2801	3 14 1.6	16.275	20	2 3 53.61	2.2252	9 24 27.6	14.681
21	0 18 36.20	2.2775	2 57 44.8	16.283	21	2 6 7.13	2.2255	9 39 6.3	14.609
22	0 20 52.77	2.2750	2 41 27.6	16.290	22	2 8 20.67	2.2258	9 53 40.7	14.537
23	0 23 9.20	2.2726	2 25 10.0	16.295	23	2 10 34.23	2.2262	10 8 10.7	14.462
24	0 25 25.48	2.2701	S. 2 8 52.2	16.297	24	2 12 47.81	2.2266	N. 10 22 36.1	14.386

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	2 12 47.81	2.2966	N.10 22 36.1	14.386	0	4 0 45.34	2.2789	N.20 4 6.5	9.470
1	2 15 1.42	2.2970	10 36 57.0	14.309	1	4 3 2.11	2.2802	20 13 31.0	9.347
2	2 17 15.05	2.2974	10 51 13.2	14.931	2	4 5 18.96	2.2815	20 22 48.1	9.293
3	2 19 28.71	2.2979	11 5 24.7	14.152	3	4 7 35.89	2.2827	20 31 57.8	9.099
4	2 21 42.40	2.2985	11 19 31.4	14.071	4	4 9 52.89	2.2840	20 41 0.0	8.973
5	2 23 56.13	2.2992	11 33 33.2	13.987	5	4 12 9.97	2.2852	20 49 54.6	8.847
6	2 26 9.90	2.2998	11 47 29.9	13.903	6	4 14 27.12	2.2864	20 58 41.7	8.791
7	2 28 23.71	2.3005	12 1 21.6	13.819	7	4 16 44.34	2.2876	21 7 21.2	8.594
8	2 30 37.56	2.3013	12 15 8.2	13.733	8	4 19 1.63	2.2888	21 15 53.0	8.467
9	2 32 51.46	2.3021	12 28 49.6	13.647	9	4 21 19.00	2.2900	21 24 17.2	8.339
10	2 35 5.41	2.3029	12 42 25.8	13.559	10	4 23 36.43	2.2910	21 32 33.7	8.210
11	2 37 19.41	2.3037	12 55 56.7	13.470	11	4 25 53.92	2.2921	21 40 42.4	8.081
12	2 39 33.45	2.3045	13 9 22.2	13.379	12	4 28 11.48	2.2932	21 48 43.4	7.952
13	2 41 47.55	2.3055	13 22 42.2	13.287	13	4 30 29.10	2.2942	21 56 36.6	7.822
14	2 44 1.71	2.3064	13 35 56.7	13.194	14	4 32 46.78	2.2952	22 4 22.0	7.692
15	2 46 15.92	2.3073	13 49 5.5	13.100	15	4 35 4.53	2.2962	22 11 59.6	7.561
16	2 48 30.19	2.3083	14 2 8.7	13.006	16	4 37 22.33	2.2973	22 19 29.3	7.429
17	2 50 44.52	2.3094	14 15 6.2	12.909	17	4 39 40.19	2.2982	22 26 51.1	7.298
18	2 52 58.92	2.3105	14 27 57.8	12.812	18	4 41 58.11	2.2991	22 34 5.1	7.166
19	2 55 13.38	2.3116	14 40 43.6	12.714	19	4 44 16.08	2.2999	22 41 11.1	7.033
20	2 57 27.91	2.3127	14 53 23.5	12.615	20	4 46 34.09	2.3006	22 48 9.1	6.901
21	2 59 42.50	2.3138	15 5 57.4	12.515	21	4 48 52.15	2.3013	22 54 59.2	6.768
22	3 1 57.16	2.3149	15 18 25.3	12.413	22	4 51 10.25	2.3021	23 1 41.3	6.634
23	3 4 11.89	2.3162	N.15 30 47.0	12.310	23	4 53 28.40	2.3028	N.23 8 15.3	6.500
SATURDAY 14.					MONDAY 16.				
0	3 6 26.70	2.3174	N.15 43 2.5	12.207	0	4 55 46.59	2.3034	N.23 14 41.3	6.366
1	3 8 41.58	2.3186	15 55 11.8	12.103	1	4 58 4.81	2.3040	23 20 59.2	6.232
2	3 10 56.53	2.3198	16 7 14.9	11.998	2	5 0 23.07	2.3046	23 27 9.1	6.097
3	3 13 11.55	2.3210	16 19 11.6	11.892	3	5 2 41.36	2.3051	23 33 10.9	5.962
4	3 15 26.65	2.3223	16 31 1.9	11.785	4	5 4 59.68	2.3056	23 39 4.6	5.827
5	3 17 41.83	2.3236	16 42 45.8	11.678	5	5 7 18.03	2.3060	23 44 50.2	5.692
6	3 19 57.08	2.3249	16 54 23.3	11.570	6	5 9 36.40	2.3063	23 50 27.6	5.556
7	3 22 12.41	2.3262	17 5 54.2	11.459	7	5 11 54.79	2.3067	23 55 56.9	5.420
8	3 24 27.83	2.3276	17 17 18.4	11.348	8	5 14 13.20	2.3070	24 1 18.0	5.284
9	3 26 43.32	2.3289	17 28 35.9	11.236	9	5 16 31.63	2.3072	24 6 31.0	5.148
10	3 28 58.89	2.3302	17 39 46.7	11.124	10	5 18 50.07	2.3074	24 11 35.8	5.011
11	3 31 14.54	2.3315	17 50 50.8	11.011	11	5 21 8.52	2.3075	24 16 32.3	4.874
12	3 33 30.27	2.3328	18 1 48.0	10.897	12	5 23 26.97	2.3076	24 21 20.7	4.738
13	3 35 46.08	2.3342	18 12 38.4	10.782	13	5 25 45.43	2.3077	24 26 0.9	4.601
14	3 38 1.97	2.3355	18 23 21.9	10.667	14	5 28 3.89	2.3076	24 30 32.9	4.464
15	3 40 17.94	2.3369	18 33 58.4	10.550	15	5 30 22.34	2.3075	24 34 56.6	4.327
16	3 42 34.00	2.3383	18 44 27.9	10.433	16	5 32 40.79	2.3073	24 39 12.1	4.191
17	3 44 50.14	2.3397	18 54 50.4	10.315	17	5 34 59.22	2.3071	24 43 19.5	4.054
18	3 47 6.36	2.3410	19 5 5.7	10.196	18	5 37 17.64	2.3068	24 47 18.6	3.917
19	3 49 22.66	2.3423	19 15 13.9	10.077	19	5 39 36.04	2.3065	24 51 9.5	3.779
20	3 51 39.04	2.3436	19 25 14.9	9.957	20	5 41 54.42	2.3062	24 54 52.1	3.642
21	3 53 55.49	2.3449	19 35 8.8	9.837	21	5 44 12.78	2.3057	24 58 26.5	3.505
22	3 56 12.03	2.3463	19 44 55.4	9.715	22	5 46 31.11	2.3052	25 1 52.7	3.368
23	3 58 28.65	2.3476	19 54 34.6	9.592	23	5 48 49.41	2.3047	25 5 10.7	3.231
24	4 0 45.34	2.3489	N.20 4 6.5	9.470	24	5 51 7.68	2.3042	N.25 8 20.4	3.094

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	5 51 7.68	2.3042	N.25° 8' 20.4"	3.094	0	7 39 52.80	2.2054	N.25° 2' 46.1"	3.188
1	5 53 25.91	2.3035	25 11 21.9	2.957	1	7 42 5.03	2.2021	24 59 31.2	3.308
2	5 55 44.10	2.3027	25 14 15.2	2.820	2	7 44 17.06	2.1987	24 56 9.1	3.428
3	5 58 2.24	2.3019	25 17 0.3	2.682	3	7 46 28.88	2.1953	24 52 39.8	3.547
4	6 0 20.33	2.3011	25 19 37.1	2.545	4	7 48 40.50	2.1919	24 49 3.4	3.665
5	6 2 38.37	2.3002	25 22 5.7	2.408	5	7 50 51.91	2.1885	24 45 20.0	3.783
6	6 4 56.35	2.2992	25 24 26.1	2.272	6	7 53 3.12	2.1850	24 41 29.5	3.900
7	6 7 14.27	2.2983	25 26 38.3	2.135	7	7 55 14.11	2.1814	24 37 32.0	4.016
8	6 9 32.13	2.2971	25 28 42.3	1.999	8	7 57 24.89	2.1778	24 33 27.6	4.131
9	6 11 49.92	2.2959	25 30 38.2	1.863	9	7 59 35.45	2.1743	24 29 16.3	4.246
10	6 14 7.64	2.2946	25 32 25.9	1.727	10	8 1 45.80	2.1707	24 24 58.1	4.360
11	6 16 25.28	2.2933	25 34 5.5	1.592	11	8 3 55.93	2.1670	24 20 33.1	4.474
12	6 18 42.84	2.2920	25 35 36.9	1.456	12	8 6 5.84	2.1633	24 16 1.2	4.587
13	6 21 0.32	2.2906	25 37 0.2	1.321	13	8 8 15.53	2.1596	24 11 22.6	4.699
14	6 23 17.71	2.2891	25 38 15.4	1.185	14	8 10 24.99	2.1558	24 6 37.3	4.811
15	6 25 35.01	2.2876	25 39 22.4	1.050	15	8 12 34.23	2.1521	24 1 45.3	4.922
16	6 27 52.22	2.2861	25 40 21.4	0.916	16	8 14 43.24	2.1483	23 56 46.6	5.032
17	6 30 9.34	2.2845	25 41 12.3	0.782	17	8 16 52.02	2.1445	23 51 41.4	5.142
18	6 32 26.36	2.2827	25 41 55.2	0.647	18	8 19 0.58	2.1407	23 46 29.6	5.251
19	6 34 43.27	2.2809	25 42 30.0	0.513	19	8 21 8.91	2.1368	23 41 11.3	5.359
20	6 37 0.07	2.2791	25 42 56.8	0.380	20	8 23 17.00	2.1329	23 35 46.5	5.467
21	6 39 16.76	2.2772	25 43 15.6	0.247	21	8 25 24.86	2.1291	23 30 15.3	5.573
22	6 41 33.34	2.2753	25 43 26.4	+ 0.114	22	8 27 32.49	2.1252	23 24 37.7	5.679
23	6 43 49.80	2.2733	N.25 43 29.3	- 0.019	23	8 29 39.88	2.1212	N.23 18 53.8	5.784
WEDNESDAY 18.					FRIDAY 20.				
0	6 46 6.13	2.2713	N.25 43 24.2	0.151	0	8 31 47.04	2.1173	N.23 13 3.6	5.889
1	6 48 22.34	2.2691	25 43 11.2	0.029	1	8 33 53.96	2.1133	23 7 7.1	5.993
2	6 50 38.42	2.2668	25 42 50.3	0.413	2	8 36 0.64	2.1094	23 1 4.4	6.096
3	6 52 54.36	2.2646	25 42 21.6	0.544	3	8 38 7.09	2.1055	22 54 55.6	6.199
4	6 55 10.17	2.2623	25 41 45.0	0.675	4	8 40 13.30	2.1015	22 48 40.6	6.301
5	6 57 25.84	2.2600	25 41 0.6	0.806	5	8 42 19.27	2.0976	22 42 19.5	6.403
6	6 59 41.37	2.2576	25 40 8.3	0.936	6	8 44 25.01	2.0936	22 35 52.4	6.502
7	7 1 56.75	2.2551	25 39 8.3	1.065	7	8 46 30.51	2.0896	22 29 19.3	6.601
8	7 4 11.98	2.2526	25 38 0.5	1.194	8	8 48 35.76	2.0855	22 22 40.3	6.700
9	7 6 27.06	2.2500	25 36 45.0	1.322	9	8 50 40.77	2.0815	22 15 55.3	6.799
10	7 8 41.98	2.2473	25 35 21.8	1.450	10	8 52 45.54	2.0775	22 9 4.4	6.896
11	7 10 56.74	2.2446	25 33 51.0	1.577	11	8 54 50.07	2.0736	22 2 7.8	6.992
12	7 13 11.34	2.2419	25 32 12.5	1.705	12	8 56 54.37	2.0697	21 55 5.4	7.088
13	7 15 25.77	2.2391	25 30 26.4	1.832	13	8 58 58.43	2.0656	21 47 57.3	7.183
14	7 17 40.03	2.2362	25 28 32.7	1.958	14	9 1 2.24	2.0615	21 40 43.5	7.278
15	7 19 54.12	2.2334	25 26 31.5	2.083	15	9 3 5.81	2.0575	21 33 24.0	7.373
16	7 22 8.04	2.2306	25 24 22.8	2.208	16	9 5 9.14	2.0535	21 25 58.9	7.464
17	7 24 21.79	2.2277	25 22 6.6	2.333	17	9 7 12.23	2.0496	21 18 28.3	7.555
18	7 26 35.36	2.2246	25 19 42.9	2.457	18	9 9 15.09	2.0456	21 10 52.3	7.646
19	7 28 48.74	2.2214	25 17 11.8	2.580	19	9 11 17.70	2.0415	21 3 10.8	7.737
20	7 31 1.93	2.2183	25 14 33.3	2.703	20	9 13 20.07	2.0376	20 55 23.9	7.827
21	7 33 14.94	2.2152	25 11 47.4	2.826	21	9 15 22.21	2.0337	20 47 31.6	7.916
22	7 35 27.76	2.2120	25 8 54.2	2.947	22	9 17 24.11	2.0297	20 39 34.0	8.004
23	7 37 40.38	2.2087	25 5 53.8	3.068	23	9 19 25.77	2.0257	20 31 31.1	8.092
24	7 39 52.80	2.2054	N.25 2 46.1	3.188	24	9 21 27.20	2.0218	N.20 23 23.0	8.178

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 21.					MONDAY 23.				
0	^h 21 ^m 27.20 ^s	2.0218	N. 20° 23' 23.0"	8.178	0	^h 10 ^m 54 ^s 23.87	1.8628	N. 12° 25' 30.9"	11.442
1	9 23 28.39	2.0179	20 15 9.7	8.984	1	10 56 15.57	1.8605	12 14 2.9	11.491
2	9 25 29.35	2.0140	20 6 51.3	8.349	2	10 58 7.13	1.8581	12 2 32.0	11.540
3	9 27 30.07	2.0101	19 58 27.8	8.433	3	10 59 58.54	1.8558	11 50 58.1	11.589
4	9 29 30.56	2.0062	19 49 59.3	8.517	4	11 1 49.82	1.8535	11 39 21.3	11.636
5	9 31 30.82	2.0023	19 41 25.8	8.600	5	11 3 40.96	1.8513	11 27 41.8	11.682
6	9 33 30.84	1.9984	19 32 47.3	8.682	6	11 5 31.97	1.8491	11 15 59.5	11.728
7	9 35 30.63	1.9946	19 24 3.9	8.763	7	11 7 22.85	1.8469	11 4 14.5	11.773
8	9 37 30.20	1.9909	19 15 15.7	8.843	8	11 9 13.60	1.8448	10 52 26.8	11.818
9	9 39 29.54	1.9871	19 6 22.7	8.923	9	11 11 4.23	1.8427	10 40 36.4	11.862
10	9 41 28.65	1.9834	18 57 24.9	9.002	10	11 12 54.73	1.8407	10 28 43.4	11.904
11	9 43 27.54	1.9797	18 48 22.4	9.081	11	11 14 45.12	1.8388	10 16 47.9	11.946
12	9 45 26.21	1.9760	18 39 15.2	9.158	12	11 16 35.39	1.8369	10 4 49.9	11.987
13	9 47 24.66	1.9722	18 30 3.4	9.235	13	11 18 25.55	1.8351	9 52 49.4	12.028
14	9 49 22.88	1.9685	18 20 47.0	9.311	14	11 20 15.60	1.8332	9 40 46.5	12.068
15	9 51 20.88	1.9648	18 11 26.1	9.386	15	11 22 5.54	1.8314	9 28 41.3	12.107
16	9 53 18.66	1.9612	18 2 0.7	9.460	16	11 23 55.37	1.8298	9 16 33.7	12.146
17	9 55 16.23	1.9577	17 52 30.9	9.534	17	11 25 45.11	1.8282	9 4 23.8	12.184
18	9 57 13.58	1.9541	17 42 56.6	9.607	18	11 27 34.75	1.8265	8 52 11.6	12.222
19	9 59 10.72	1.9506	17 33 18.0	9.679	19	11 29 24.29	1.8249	8 39 57.2	12.258
20	10 1 7.65	1.9471	17 23 35.1	9.751	20	11 31 13.74	1.8234	8 27 40.7	12.293
21	10 3 4.37	1.9436	17 13 47.9	9.822	21	11 33 3.10	1.8220	8 15 22.1	12.328
22	10 5 0.88	1.9401	17 3 56.5	9.891	22	11 34 52.38	1.8206	8 3 1.4	12.362
23	10 6 57.18	1.9367	N. 16° 54' 1.0"	9.960	23	11 36 41.57	1.8192	N. 7° 50' 38.7"	12.395
SUNDAY 22.					TUESDAY 24.				
0	10 8 53.28	1.9333	N. 16° 44' 1.3"	10.029	0	11 38 30.68	1.8179	N. 7° 38' 14.0"	12.427
1	10 10 49.18	1.9300	16 33 57.5	10.096	1	11 40 19.72	1.8166	7 25 47.4	12.459
2	10 12 44.88	1.9267	16 23 49.7	10.162	2	11 42 8.68	1.8154	7 13 18.9	12.491
3	10 14 40.38	1.9234	16 13 38.0	10.228	3	11 43 57.57	1.8143	7 0 48.5	12.522
4	10 16 35.68	1.9201	16 3 22.3	10.294	4	11 45 46.40	1.8132	6 48 16.3	12.551
5	10 18 30.79	1.9168	15 53 2.7	10.358	5	11 47 35.16	1.8122	6 35 42.4	12.580
6	10 20 25.70	1.9137	15 42 39.3	10.422	6	11 49 23.86	1.8112	6 23 6.7	12.608
7	10 22 20.43	1.9106	15 32 12.1	10.485	7	11 51 12.50	1.8103	6 10 29.4	12.635
8	10 24 14.97	1.9074	15 21 41.1	10.547	8	11 53 1.09	1.8094	5 57 50.5	12.662
9	10 26 9.32	1.9043	15 11 6.4	10.609	9	11 54 49.63	1.8086	5 45 9.9	12.689
10	10 28 3.49	1.9013	15 0 28.0	10.670	10	11 56 38.12	1.8078	5 32 27.8	12.714
11	10 29 57.48	1.8982	14 49 46.0	10.730	11	11 58 26.57	1.8071	5 19 44.2	12.738
12	10 31 51.28	1.8952	14 39 0.4	10.789	12	12 0 14.98	1.8065	5 6 59.2	12.762
13	10 33 44.90	1.8924	14 28 11.3	10.847	13	12 2 3.35	1.8059	4 54 12.8	12.785
14	10 35 38.36	1.8896	14 17 18.7	10.905	14	12 3 51.69	1.8053	4 41 25.0	12.807
15	10 37 31.65	1.8867	14 6 22.7	10.962	15	12 5 39.99	1.8047	4 28 35.9	12.829
16	10 39 24.77	1.8839	13 55 23.3	11.018	16	12 7 28.26	1.8043	4 15 45.5	12.850
17	10 41 17.72	1.8811	13 44 20.5	11.074	17	12 9 16.51	1.8040	4 2 53.9	12.870
18	10 43 10.50	1.8784	13 33 14.4	11.128	18	12 11 4.74	1.8037	3 50 1.1	12.889
19	10 45 3.12	1.8757	13 22 5.1	11.182	19	12 12 52.95	1.8034	3 37 7.2	12.908
20	10 46 55.58	1.8730	13 10 52.5	11.236	20	12 14 41.15	1.8032	3 24 12.2	12.926
21	10 48 47.88	1.8704	12 59 36.7	11.289	21	12 16 29.33	1.8030	3 11 16.1	12.943
22	10 50 40.03	1.8679	12 48 17.8	11.340	22	12 18 17.51	1.8030	2 58 19.0	12.959
23	10 52 32.03	1.8653	12 36 55.9	11.391	23	12 20 5.63	1.8029	2 45 21.0	12.975
24	10 54 23.87	1.8628	N. 12° 25' 30.9"	11.442	24	12 21 53.86	1.8029	N. 2° 32' 22.0"	12.991

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25.					FRIDAY 27.				
0	^h 12 ^m 21 ^s 53.86	1.8029	N. 2° 32' 22.0	12.991	0	^h 13 ^m 49 ^s 33.76	1.8797	S. 7° 53' 37.7	12.783
1	12 23 42.04	1.8030	2 19 22.1	13.005	1	13 51 26.21	1.8756	8 6 23.9	12.758
2	12 25 30.22	1.8031	2 6 21.4	13.018	2	13 53 18.83	1.8785	8 19 8.7	12.733
3	12 27 18.41	1.8033	1 53 20.0	13.030	3	13 55 11.63	1.8816	8 31 51.9	12.707
4	12 29 6.61	1.8035	1 40 17.8	13.042	4	13 57 4.62	1.8847	8 44 33.5	12.679
5	12 30 54.83	1.8038	1 27 14.9	13.053	5	13 58 57.80	1.8878	8 57 13.4	12.651
6	12 32 43.07	1.8042	1 14 11.4	13.063	6	14 0 51.16	1.8910	9 9 51.6	12.622
7	12 34 31.33	1.8046	1 1 7.3	13.073	7	14 2 44.72	1.8943	9 22 28.0	12.592
8	12 36 19.62	1.8051	0 48 2.6	13.082	8	14 4 38.48	1.8977	9 35 2.6	12.560
9	12 38 7.94	1.8056	0 34 57.4	13.090	9	14 6 32.44	1.9010	9 47 35.2	12.528
10	12 39 56.29	1.8062	0 21 51.8	13.098	10	14 8 26.60	1.9044	10 0 5.9	12.495
11	12 41 44.68	1.8068	N. 0 8 45.7	13.105	11	14 10 20.97	1.9080	10 12 34.6	12.461
12	12 43 33.11	1.8075	S. 0 4 20.8	13.111	12	14 12 15.56	1.9116	10 25 1.2	12.426
13	12 45 21.58	1.8083	0 17 27.6	13.115	13	14 14 10.36	1.9152	10 37 25.7	12.390
14	12 47 10.10	1.8092	0 30 34.6	13.119	14	14 16 5.38	1.9188	10 49 48.0	12.353
15	12 48 58.68	1.8101	0 43 41.9	13.123	15	14 18 0.62	1.9226	11 2 8.1	12.316
16	12 50 47.31	1.8110	0 56 49.4	13.126	16	14 19 56.09	1.9264	11 14 25.9	12.277
17	12 52 36.00	1.8120	1 9 57.0	13.128	17	14 21 51.79	1.9302	11 26 41.4	12.238
18	12 54 24.75	1.8130	1 23 4.7	13.129	18	14 23 47.72	1.9341	11 38 54.5	12.197
19	12 56 13.56	1.8141	1 36 12.5	13.129	19	14 25 43.88	1.9380	11 51 5.1	12.156
20	12 58 2.44	1.8153	1 49 20.2	13.128	20	14 27 40.28	1.9421	12 3 13.2	12.113
21	12 59 51.40	1.8166	2 2 27.9	13.127	21	14 29 36.93	1.9463	12 15 18.7	12.069
22	13 1 40.43	1.8179	2 15 35.5	13.125	22	14 31 33.83	1.9504	12 27 21.5	12.025
23	13 3 29.54	1.8193	S. 2 28 42.9	13.121	23	14 33 30.98	1.9546	S. 12 39 21.7	11.980
THURSDAY 26.					SATURDAY 28.				
0	13 5 18.74	1.8208	S. 2 41 50.1	13.117	0	14 35 28.38	1.9588	S. 12 51 19.1	11.933
1	13 7 8.03	1.8222	2 54 57.0	13.113	1	14 37 26.04	1.9631	13 3 13.7	11.886
2	13 8 57.40	1.8236	3 8 3.7	13.109	2	14 39 23.96	1.9674	13 15 5.4	11.837
3	13 10 46.86	1.8252	3 21 10.1	13.103	3	14 41 22.13	1.9717	13 26 54.1	11.787
4	13 12 36.42	1.8269	3 34 16.1	13.096	4	14 43 20.57	1.9762	13 38 39.8	11.737
5	13 14 26.09	1.8287	3 47 21.6	13.089	5	14 45 19.28	1.9807	13 50 22.5	11.686
6	13 16 15.86	1.8304	4 0 26.7	13.081	6	14 47 18.26	1.9853	14 2 2.1	11.633
7	13 18 5.74	1.8322	4 13 31.3	13.071	7	14 49 17.52	1.9900	14 13 38.5	11.579
8	13 19 55.73	1.8342	4 26 35.2	13.060	8	14 51 17.06	1.9947	14 25 11.6	11.524
9	13 21 45.84	1.8362	4 39 38.5	13.049	9	14 53 16.88	1.9993	14 36 41.4	11.468
10	13 23 36.07	1.8382	4 52 41.1	13.037	10	14 55 16.98	2.0040	14 48 7.8	11.412
11	13 25 26.42	1.8402	5 5 43.0	13.025	11	14 57 17.36	2.0088	14 59 30.8	11.354
12	13 27 16.89	1.8423	5 18 44.1	13.011	12	14 59 18.03	2.0137	15 10 50.3	11.295
13	13 29 7.49	1.8445	5 31 44.3	12.997	13	15 1 19.00	2.0187	15 22 6.2	11.235
14	13 30 58.23	1.8468	5 44 43.7	12.982	14	15 3 20.27	2.0236	15 33 18.5	11.174
15	13 32 49.11	1.8492	5 57 42.2	12.967	15	15 5 21.83	2.0285	15 44 27.1	11.112
16	13 34 40.13	1.8515	6 10 39.7	12.949	16	15 7 23.69	2.0336	15 55 31.9	11.048
17	13 36 31.29	1.8539	6 23 36.1	12.931	17	15 9 25.86	2.0387	16 6 32.9	10.983
18	13 38 22.60	1.8564	6 36 31.4	12.912	18	15 11 28.34	2.0439	16 17 29.9	10.918
19	13 40 14.06	1.8590	6 49 25.6	12.893	19	15 13 31.13	2.0491	16 28 23.0	10.852
20	13 42 5.68	1.8616	7 2 18.6	12.873	20	15 15 34.23	2.0543	16 39 12.1	10.784
21	13 43 57.45	1.8642	7 15 10.4	12.852	21	15 17 37.64	2.0595	16 49 57.1	10.716
22	13 45 49.38	1.8669	7 28 0.9	12.830	22	15 19 41.37	2.0648	17 0 38.0	10.646
23	13 47 41.48	1.8698	7 40 50.0	12.807	23	15 21 45.42	2.0701	17 11 14.6	10.574
24	13 49 33.76	1.8727	S. 7 53 37.7	12.783	24	15 23 49.78	2.0754	S. 17 21 46.9	10.502

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 29.					TUESDAY 31.				
0	^h 15 ^m 23 ^s 49.78	2.0754	S. 17° 21' 46.9"	10.502	0	^h 17 ^m 10 ^s 5.96	2.3543	S. 24° 0' 26.6"	5.650
1	15 25 54.47	2.0809	17 32 14.9	10.499	1	17 12 27.38	2.3598	24 6 1.7	5.590
2	15 27 59.49	2.0864	17 42 38.4	10.354	2	17 14 49.14	2.3654	24 11 29.0	5.389
3	15 30 4.84	2.0919	17 52 57.4	10.379	3	17 17 11.23	2.3708	24 16 48.4	5.257
4	15 32 10.52	2.0974	18 3 11.9	10.202	4	17 19 33.64	2.3762	24 21 59.8	5.123
5	15 34 16.53	2.1029	18 13 21.7	10.133	5	17 21 56.38	2.3816	24 27 3.2	4.988
6	15 36 22.87	2.1085	18 23 26.7	10.044	6	17 24 19.44	2.3870	24 31 58.4	4.852
7	15 38 29.55	2.1142	18 33 27.0	9.965	7	17 26 42.82	2.3923	24 36 45.5	4.716
8	15 40 36.57	2.1198	18 43 22.5	9.883	8	17 29 6.51	2.3975	24 41 24.3	4.578
9	15 42 43.93	2.1255	18 53 13.0	9.800	9	17 31 30.52	2.4027	24 45 54.8	4.439
10	15 44 51.63	2.1312	19 2 58.5	9.717	10	17 33 54.84	2.4078	24 50 17.0	4.300
11	15 46 59.68	2.1370	19 12 39.0	9.632	11	17 36 19.46	2.4128	24 54 30.8	4.159
12	15 49 8.07	2.1428	19 22 14.4	9.547	12	17 38 44.38	2.4178	24 58 36.1	4.017
13	15 51 16.81	2.1486	19 31 44.7	9.460	13	17 41 9.60	2.4227	25 2 32.8	3.874
14	15 53 25.90	2.1543	19 41 9.6	9.370	14	17 43 35.11	2.4276	25 6 20.9	3.730
15	15 55 35.33	2.1601	19 50 29.1	9.280	15	17 46 0.91	2.4324	25 10 0.4	3.585
16	15 57 45.11	2.1660	19 59 43.2	9.190	16	17 48 27.00	2.4371	25 13 31.1	3.439
17	15 59 55.25	2.1719	20 8 51.9	9.098	17	17 50 53.36	2.4417	25 16 53.0	3.292
18	16 2 5.74	2.1778	20 17 55.0	9.005	18	17 53 20.00	2.4462	25 20 6.1	3.144
19	16 4 16.58	2.1837	20 26 52.5	8.911	19	17 55 46.91	2.4507	25 23 10.3	2.995
20	16 6 27.78	2.1897	20 35 44.3	8.815	20	17 58 14.09	2.4552	25 26 5.5	2.845
21	16 8 39.34	2.1956	20 44 30.3	8.718	21	18 0 41.53	2.4595	25 28 51.7	2.694
22	16 10 51.25	2.2015	20 53 10.5	8.620	22	18 3 9.23	2.4637	25 31 28.8	2.543
23	16 13 3.52	2.2074	S. 21° 1' 44.7"	8.520	23	18 5 37.17	2.4678	S. 25° 33' 56.9"	2.392
MONDAY 30.					WEDNESDAY, APRIL 1.				
0	16 15 16.14	2.2133	S. 21° 10' 12.9"	8.419	0	18 8 5.36	2.4718	S. 25° 36' 15.8"	2.238
1	16 17 29.12	2.2194	21 18 35.0	8.318	PHASES OF THE MOON.				
2	16 19 42.47	2.2254	21 26 51.1	8.217					
3	16 21 56.17	2.2313	21 35 1.0	8.113					
4	16 24 10.23	2.2373	21 43 4.6	8.007					
5	16 26 24.65	2.2432	21 51 1.8	7.900	d h m ☾ Last Quarter . . . Mar. 3 7 37.5 ● New Moon 9 23 50.7 ☾ First Quarter 16 21 10.5 ○ Full Moon 25 1 11.9				
6	16 28 39.42	2.2492	21 58 52.6	7.792					
7	16 30 54.55	2.2552	22 6 36.9	7.684					
8	16 33 10.05	2.2612	22 14 14.7	7.574					
9	16 35 25.90	2.2672	22 21 45.8	7.463	d h ☾ Perigee Mar. 9 12.7 ☾ Apogee 22 9.7				
10	16 37 42.11	2.2731	22 29 10.2	7.350					
11	16 39 58.67	2.2790	22 36 27.8	7.236					
12	16 42 15.59	2.2850	22 43 38.5	7.121					
13	16 44 32.87	2.2909	22 50 42.3	7.005					
14	16 46 50.50	2.2967	22 57 39.1	6.888					
15	16 49 8.48	2.3026	23 4 28.9	6.770					
16	16 51 26.81	2.3084	23 11 11.5	6.650					
17	16 53 45.49	2.3143	23 17 46.9	6.529					
18	16 56 4.53	2.3202	23 24 15.0	6.407					
19	16 58 23.91	2.3260	23 30 35.7	6.283					
20	17 0 43.64	2.3316	23 36 49.0	6.159					
21	17 3 3.71	2.3373	23 42 54.8	6.034					
22	17 5 24.12	2.3430	23 48 53.1	5.907					
23	17 7 44.87	2.3487	23 54 43.7	5.779					
24	17 10 5.96	2.3543	S. 24° 0' 26.6"	5.650					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Regulus	W.	75° 9' 10"	2867	76° 42' 11"	2855	78° 15' 27"	2844	79° 48' 58"	2832
	SATURN	W.	59 23 0	2839	60 56 46	2881	62 30 46	2809	64 5 2	2798
	Spica	W.	21 34 30	3007	23 4 34	2979	24 35 13	2953	26 6 25	2928
	VENUS	E.	71 3 38	3276	69 38 58	3265	68 14 5	3253	66 48 58	3241
	α Aquilæ	E.	77 22 22	3676	76 5 9	3676	74 47 56	3677	73 30 45	3679
	SUN	E.	117 8 52	3240	115 43 30	3227	114 17 53	3215	112 52 2	3202
2	Regulus	W.	87 40 28	2769	89 15 36	2756	90 51 2	2742	92 26 46	2728
	SATURN	W.	72 0 18	2735	73 36 12	2721	75 12 24	2707	76 48 54	2693
	Spica	W.	33 49 38	2885	35 23 34	2865	36 57 55	2787	38 32 40	2769
	VENUS	E.	59 39 44	3176	58 13 6	3163	56 46 12	3148	55 19 1	3134
	α Aquilæ	E.	67 5 52	3710	65 49 16	3722	64 32 52	3734	63 16 41	3748
	SUN	E.	105 38 42	3132	104 11 11	3117	102 43 22	3101	101 15 14	3087
3	SATURN	W.	84 56 15	2619	86 34 44	2603	88 13 35	2588	89 52 47	2572
	Spica	W.	46 32 16	2681	48 9 22	2663	49 46 52	2645	51 24 46	2628
	VENUS	E.	47 58 43	3060	46 29 45	3046	45 0 29	3030	43 30 54	3015
	α Aquilæ	E.	57 0 32	3265	55 46 37	3266	54 33 15	3236	53 20 32	3218
	SUN	E.	93 49 45	3004	92 19 37	2986	90 49 9	2970	89 18 19	2953
4	Spica	W.	59 40 18	2538	61 20 39	2520	63 1 25	2502	64 42 36	2483
	VENUS	E.	55 58 20	2942	54 26 54	2928	52 55 11	2916	51 23 12	2905
	SUN	E.	81 38 33	2662	80 5 26	2645	78 31 56	2626	76 58 2	2607
5	Spica	W.	73 14 57	2393	74 58 42	2375	76 42 53	2357	78 27 29	2339
	Antares	W.	27 26 27	2433	29 9 15	2410	30 52 36	2387	32 36 30	2365
	SUN	E.	69 2 24	2714	67 26 3	2695	65 49 17	2678	64 12 7	2659
6	Spica	W.	87 16 52	2254	89 3 59	2237	90 51 31	2221	92 39 27	2206
	Antares	W.	41 23 39	2264	43 10 32	2245	44 57 52	2227	46 45 39	2210
	SUN	E.	56 0 11	2572	54 20 37	2555	52 40 40	2538	51 0 20	2523
7	Spica	W.	101 44 48	2133	103 34 57	2120	105 25 25	2107	107 16 13	2096
	Antares	W.	55 50 47	2131	57 40 59	2116	59 31 33	2103	61 22 27	2090
	SUN	E.	42 33 30	2453	40 51 11	2441	39 8 35	2430	37 25 43	2421
8	Antares	W.	70 41 43	2034	72 34 24	2025	74 27 19	2017	76 20 27	2009
	SUN	E.	28 48 32	2391	27 4 45	2392	25 20 59	2396	23 37 18	2403
11	SUN	W.	15 0 16	2553	16 40 15	2512	18 21 11	2489	20 2 40	2477
	Aldebaran	E.	63 1 14	2044	61 8 49	2055	59 16 40	2066	57 24 49	2079
	Pollux	E.	107 6 26	2026	105 13 33	2037	103 20 56	2047	101 28 35	2057
12	SUN	W.	28 31 33	2489	30 13 2	2497	31 54 20	2507	33 35 24	2519
	Aldebaran	E.	48 10 30	2151	46 20 58	2168	44 31 42	2186	42 42 53	2204
	Pollux	E.	92 11 20	2122	90 20 54	2137	88 30 51	2151	86 41 10	2167
13	SUN	W.	41 56 3	2593	43 35 7	2610	45 13 48	2628	46 52 5	2646
	Aldebaran	E.	33 46 9	2211	32 0 25	2235	30 15 17	2262	28 30 48	2291
	Pollux	E.	77 38 50	2251	75 51 38	2269	74 4 53	2287	72 18 35	2305
14	SUN	W.	54 57 19	2741	56 33 5	2760	58 8 25	2780	59 43 19	2801

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Regulus	W.	81° 22' 44"	2890	82° 56' 46"	2898	84° 31' 3"	2795	86° 5' 37"	2782
	SATURN	W.	65 39 33	2785	67 14 20	2773	68 49 23	2761	70 24 42	2748
	Spica	W.	27 38 8	2905	29 10 20	2883	30 43 0	2863	32 16 6	2843
	VENUS	E.	65 23 37	3028	63 58 1	3016	62 32 11	3003	61 6 5	3190
	α Aquilæ	E.	72 13 36	3683	70 56 31	3688	69 39 31	3693	68 22 37	3702
	SUN	E.	111 25 55	3188	109 59 31	3175	108 32 52	3161	107 5 56	3146
2	Regulus	W.	94 2 49	2713	95 39 11	2699	97 15 52	2684	98 52 53	2669
	SATURN	W.	78 25 43	2679	80 2 51	2664	81 40 19	2649	83 18 7	2635
	Spica	W.	40 7 48	2751	41 43 20	2734	43 19 15	2716	44 55 34	2698
	VENUS	E.	53 51 33	3119	52 23 47	3105	50 55 44	3091	49 27 23	3075
	α Aquilæ	E.	62 0 45	3767	60 45 8	3766	59 29 51	3809	58 14 58	3835
	SUN	E.	99 46 48	3070	98 18 2	3054	96 48 56	3039	95 19 31	3022
3	SATURN	W.	91 32 21	2555	93 12 18	2539	94 52 37	2522	96 33 19	2505
	Spica	W.	53 3 3	2610	54 41 45	2592	56 20 51	2574	58 0 22	2556
	VENUS	E.	42 1 0	3001	40 30 48	2985	39 0 17	2971	37 29 28	2956
	α Aquilæ	E.	52 8 31	4028	50 57 19	4022	49 47 0	4144	48 37 41	4214
	SUN	E.	87 47 7	2935	86 15 33	2917	84 43 36	2899	83 11 16	2881
4	Spica	W.	66 24 13	2465	68 6 16	2447	69 48 44	2429	71 31 38	2411
	VENUS	E.	29 50 59	2984	28 18 32	2964	26 45 53	2976	25 13 3	2967
	SUN	E.	75 23 43	2738	73 49 0	2770	72 13 53	2751	70 38 21	2732
5	Spica	W.	80 12 31	2322	81 57 58	2304	83 43 51	2287	85 30 9	2270
	Antares	W.	34 20 55	2344	36 5 51	2322	37 51 18	2302	39 37 14	2283
	SUN	E.	62 34 32	2641	60 56 33	2624	59 18 10	2605	57 39 22	2588
6	Spica	W.	94 27 46	2190	96 16 28	2175	98 5 33	2161	99 55 0	2147
	Antares	W.	48 33 51	2193	50 22 29	2177	52 11 31	2161	54 0 57	2145
	SUN	E.	49 19 39	2508	47 38 37	2493	45 57 14	2479	44 15 31	2466
7	Spica	W.	109 7 19	2085	110 58 42	2073	112 50 22	2064	114 42 17	2055
	Antares	W.	63 13 42	2077	65 5 16	2066	66 57 8	2055	68 49 17	2044
	SUN	E.	35 42 38	2413	33 59 20	2405	32 15 52	2398	30 32 15	2394
8	Antares	W.	78 13 47	2003	80 7 17	1996	82 0 57	1991	83 54 45	1986
	SUN	E.	21 53 47	2415	20 10 34	2432	18 27 45	2455	16 45 29	2487
11	SUN	W.	21 44 26	2473	23 26 17	2473	25 8 8	2477	26 49 54	2482
	Aldebaran	E.	55 33 17	2092	53 42 5	2105	51 51 14	2120	50 0 45	2135
	Pollux	E.	99 36 30	2069	97 44 43	2081	95 53 15	2094	94 2 7	2108
12	SUN	W.	35 16 11	2532	36 56 40	2546	38 36 49	2561	40 16 37	2577
	Aldebaran	E.	40 54 32	2224	39 6 40	2244	37 19 18	2265	35 32 27	2287
	Pollux	E.	84 51 53	2183	83 3 0	2199	81 14 31	2216	79 26 28	2233
13	SUN	W.	48 29 58	2663	50 7 27	2683	51 44 30	2702	53 21 7	2721
	Aldebaran	E.	26 47 0	2422	25 3 56	2455	23 21 39	2491	21 40 13	2539
	Pollux	E.	70 32 43	2324	68 47 18	2343	67 2 21	2362	65 17 51	2381
14	SUN	W.	61 17 47	2820	62 51 49	2840	64 25 25	2859	65 58 36	2880

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Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
14	MARS	W.	14° 21' 56"	2716	15° 58' 15"	2720	17° 34' 28"	2726	19° 10' 31"	2738
	Pollux	E.	63 33 49	2400	61 50 14	2419	60 7 7	2439	58 24 28	2458
	Regulus	E.	99 44 44	2405	98 1 16	2424	96 18 16	2443	94 35 43	2462
15	SUN	W.	67 31 21	2899	69 3 41	2920	70 35 35	2938	72 7 5	2958
	α Arietis	W.	27 57 15	3046	29 26 31	3018	30 56 22	2995	32 26 41	2977
	MARS	W.	27 6 43	2811	28 40 57	2828	30 14 49	2845	31 48 19	2862
	Pollux	E.	49 58 2	2556	48 18 6	2574	46 38 36	2593	44 59 32	2613
	Regulus	E.	86 9 39	2557	84 29 45	2576	82 50 17	2594	81 11 14	2613
16	SUN	W.	79 38 33	3052	81 7 41	3071	82 36 26	3088	84 4 50	3106
	α Arietis	W.	40 2 7	2945	41 33 29	2946	43 4 49	2949	44 36 6	2953
	Pollux	E.	36 50 41	2707	35 14 11	2725	33 38 5	2744	32 2 24	2763
	Regulus	E.	73 2 12	2702	71 25 35	2719	69 49 21	2736	68 13 29	2753
17	SUN	W.	91 21 38	3188	92 48 1	3204	94 14 5	3220	95 39 51	3234
	α Arietis	W.	52 10 56	2984	53 41 29	2991	55 11 53	2999	56 42 7	3006
	Regulus	E.	60 19 34	2832	58 45 48	2847	57 12 21	2861	55 39 12	2876
18	SUN	W.	102 44 34	3300	104 8 45	3313	105 32 41	3325	106 56 24	3336
	α Arietis	W.	64 10 49	3047	65 40 3	3055	67 9 8	3063	68 38 3	3071
	Aldebaran	W.	33 6 12	2981	34 36 49	2987	36 7 18	2993	37 37 39	3001
	Regulus	E.	47 57 55	2942	46 26 30	2954	44 55 20	2967	43 24 26	2978
	Spica	E.	102 1 10	2939	100 29 41	2950	98 58 26	2961	97 27 24	2970
19	SUN	W.	113 51 52	3386	115 14 24	3395	116 36 46	3403	117 58 59	3412
	α Arietis	W.	76 0 20	3106	77 28 22	3113	78 56 16	3119	80 24 3	3125
	Aldebaran	W.	45 7 19	3032	46 36 52	3039	48 6 17	3044	49 35 35	3049
	Regulus	E.	35 53 30	3035	34 24 1	3046	32 54 45	3057	31 25 43	3068
	SATURN	E.	50 3 2	2977	48 32 20	2965	47 1 48	2993	45 31 26	3000
	Spica	E.	89 55 13	3016	88 25 20	3023	86 55 36	3030	85 26 1	3038
20	SUN	W.	124 47 54	3446	126 9 19	3452	127 30 37	3457	128 51 49	3462
	α Arietis	W.	87 41 12	3152	89 8 19	3156	90 35 21	3161	92 2 17	3164
	Aldebaran	W.	57 0 32	3073	58 29 15	3077	59 57 53	3081	61 26 26	3083
	SATURN	E.	38 1 47	3033	36 32 15	3039	35 2 50	3044	33 33 32	3050
	Spica	E.	78 0 9	3068	76 31 20	3073	75 2 37	3077	73 33 59	3082
21	Aldebaran	W.	68 48 23	3095	70 16 39	3096	71 44 53	3098	73 13 5	3099
	Pollux	W.	24 39 9	3110	26 7 7	3108	27 35 7	3106	29 3 9	3105
	SATURN	E.	26 8 38	3075	24 39 58	3080	23 11 24	3086	21 42 57	3093
	Spica	E.	66 12 2	3098	64 43 50	3101	63 15 41	3103	61 47 35	3105
22	Aldebaran	W.	80 33 55	3100	82 2 5	3099	83 30 16	3098	84 58 28	3097
	Pollux	W.	36 23 45	3098	37 51 57	3096	39 20 12	3095	40 48 28	3092
	Spica	E.	54 27 36	3111	52 59 40	3113	51 31 46	3114	50 3 53	3114
	Antares	E.	100 18 28	3093	98 50 10	3092	97 21 51	3092	95 53 32	3091
23	Aldebaran	W.	92 19 51	3089	93 48 14	3087	95 16 40	3085	96 45 8	3082
	Pollux	W.	48 10 30	3081	49 39 3	3078	51 7 40	3074	52 36 21	3072
	Spica	E.	42 44 34	3116	41 16 44	3116	39 48 54	3117	38 21 5	3119
	Antares	E.	88 31 29	3082	87 2 58	3080	85 34 24	3078	84 5 47	3075

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Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	MARS	W.	20 46 21	9750	22 21 55	9763	23 57 11	9779	25 32 7	9794
	Pollux	E.	56 42 16	9478	55 0 32	9497	53 19 15	9517	51 38 25	9536
	Regulus	E.	92 53 37	9488	91 11 58	9500	89 30 45	9520	87 49 59	9538
15	SUN	W.	73 38 11	9977	75 8 52	9997	76 39 9	3016	78 9 2	3034
	α Arietis	W.	33 57 22	9965	35 28 19	9954	36 59 29	9949	38 30 46	9946
	MARS	W.	33 21 26	9890	34 54 11	9896	36 26 35	9914	37 58 36	9931
	Pollux	E.	43 20 55	9639	41 42 43	9651	40 4 57	9669	38 27 36	9689
	Regulus	E.	79 32 37	9631	77 54 24	9649	76 16 36	9667	74 39 12	9685
16	SUN	W.	85 32 52	3194	87 0 33	3139	88 27 55	3157	89 54 56	3173
	α Arietis	W.	46 7 18	2958	47 38 24	2963	49 9 23	2969	50 40 14	2977
	Pollux	E.	30 27 7	2781	28 52 14	2800	27 17 46	2818	25 43 42	2837
	Regulus	E.	66 38 0	2769	65 2 52	2786	63 28 6	2801	61 53 40	2817
17	SUN	W.	97 5 20	3247	98 30 33	3262	99 55 29	3276	101 20 9	3288
	α Arietis	W.	58 12 12	3014	59 42 7	3023	61 11 51	3031	62 41 25	3039
	Regulus	E.	54 6 22	2890	52 33 50	2903	51 1 35	2916	49 29 37	2929
18	SUN	W.	108 19 54	3347	109 43 11	3358	111 6 16	3368	112 29 9	3377
	α Arietis	W.	70 6 48	3078	71 35 24	3086	73 3 51	3092	74 32 10	3100
	Aldebaran	W.	39 7 51	3007	40 37 55	3014	42 7 51	3020	43 37 39	3026
	Regulus	E.	41 53 46	2990	40 23 21	3001	38 53 10	3013	37 23 13	3024
	Spica	E.	95 56 34	2981	94 25 57	2989	92 55 31	2999	91 25 17	3007
19	SUN	W.	119 21 2	3419	120 42 57	3427	122 4 43	3433	123 26 22	3439
	α Arietis	W.	81 51 42	3131	83 19 14	3136	84 46 40	3142	86 13 59	3147
	Aldebaran	W.	51 4 47	3055	52 33 52	3060	54 2 51	3065	55 31 44	3069
	Regulus	E.	29 56 54	3080	28 28 20	3091	27 0 0	3105	25 31 56	3118
	SATURN	E.	44 1 13	3007	42 31 9	3014	41 1 14	3021	39 31 27	3028
	Spica	E.	83 56 35	3044	82 27 17	3051	80 58 7	3057	79 29 5	3062
20	SUN	W.	130 12 56	3467	131 33 57	3471	132 54 53	3475	134 15 45	3479
	α Arietis	W.	93 29 9	3168	94 55 56	3172	96 22 39	3176	97 49 17	3178
	Aldebaran	W.	62 54 56	3087	64 23 22	3089	65 51 45	3091	67 20 5	3093
	SATURN	E.	32 4 21	3055	30 35 16	3060	29 6 17	3065	27 37 24	3070
	Spica	E.	72 5 27	3085	70 36 59	3089	69 8 36	3092	67 40 17	3096
21	Aldebaran	W.	74 41 16	3100	76 9 26	3100	77 37 36	3101	79 5 45	3100
	Pollux	W.	30 31 13	3103	31 59 19	3102	33 27 26	3101	34 55 35	3100
	SATURN	E.	20 14 39	3101	18 46 30	3109	17 18 31	3119	15 50 45	3132
	Spica	E.	60 19 32	3107	58 51 31	3108	57 23 31	3110	55 55 33	3110
22	Aldebaran	W.	86 26 41	3096	87 54 56	3095	89 23 12	3093	90 51 30	3091
	Pollux	W.	42 16 47	3090	43 45 9	3088	45 13 33	3086	46 42 0	3083
	Spica	E.	48 36 0	3114	47 8 8	3114	45 40 16	3115	44 12 25	3115
	Antares	E.	94 25 11	3089	92 56 48	3088	91 28 24	3087	89 59 58	3084
23	Aldebaran	W.	98 13 40	3079	99 42 15	3077	101 10 53	3073	102 39 35	3069
	Pollux	W.	54 5 5	3069	55 33 53	3065	57 2 46	3061	58 31 43	3058
	Spica	E.	36 53 18	3119	35 25 32	3120	33 57 47	3123	32 30 5	3125
	Antares	E.	82 37 7	3072	81 8 23	3069	79 39 36	3066	78 10 45	3063

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24	Pollux W.	60° 0' 44"	3054	61° 29' 50"	3050	62° 59' 1"	3046	64° 28' 17"	3042
	Regulus W.	24 5 45	3122	25 33 28	3111	27 1 24	3101	28 29 33	3091
	Spica E.	31 2 26	3122	29 34 51	3133	28 7 21	3138	26 39 58	3145
	Antares E.	76 41 50	3060	75 12 51	3056	73 43 47	3052	72 14 39	3048
25	Pollux W.	71 55 59	3018	73 25 49	3013	74 55 46	3008	76 25 49	3003
	Regulus W.	35 53 3	3050	37 22 14	3042	38 51 35	3034	40 21 5	3028
	SATURN W.	21 54 29	3022	23 24 15	3014	24 54 11	3005	26 24 18	2997
	Antares E.	64 47 44	3037	63 18 5	3023	61 48 21	3018	60 18 31	3014
26	Pollux W.	83 57 43	2975	85 28 27	2969	86 59 18	2963	88 30 17	2957
	Regulus W.	47 50 44	2993	49 21 6	2985	50 51 37	2979	52 22 16	2972
	SATURN W.	33 57 14	2960	35 28 17	2954	36 59 28	2946	38 30 48	2939
	Antares E.	52 47 53	2989	51 17 27	2985	49 46 55	2980	48 16 17	2974
	α Aquilæ E.	100 19 10	2775	99 3 42	2762	97 48 0	2750	96 32 6	2740
27	Pollux W.	96 7 12	2924	97 39 0	2918	99 10 56	2911	100 43 1	2904
	Regulus W.	59 57 45	2936	61 29 18	2928	63 1 1	2921	64 32 53	2914
	SATURN W.	46 9 42	2905	47 41 55	2897	49 14 18	2890	50 46 50	2882
	Antares E.	40 41 31	2950	39 10 15	2946	37 38 54	2941	36 7 27	2936
	α Aquilæ E.	90 10 3	2698	88 53 14	2692	87 36 18	2687	86 19 17	2682
	VENUS E.	115 29 37	2369	114 6 45	2361	112 43 44	2353	111 20 34	2345
28	Regulus W.	72 14 37	2875	73 47 28	2866	75 20 30	2858	76 53 43	2850
	SATURN W.	58 31 57	2843	60 5 29	2835	61 39 11	2827	63 13 4	2819
	Spica W.	18 44 14	3053	20 13 21	3020	21 43 9	2991	23 13 33	2965
	α Aquilæ E.	79 53 22	2675	78 36 8	2675	77 18 54	2677	76 1 43	2680
	VENUS E.	104 22 17	2302	102 58 8	2293	101 33 48	2284	100 9 18	2275
	Fomalhaut E.	111 4 43	2057	109 35 41	2046	108 6 25	2034	106 36 55	2022
29	Regulus W.	84 42 32	2806	86 16 52	2796	87 51 25	2787	89 26 10	2777
	SATURN W.	71 5 13	2775	72 40 14	2766	74 15 27	2756	75 50 52	2747
	Spica W.	30 52 41	2968	32 25 41	2953	33 59 0	2938	35 32 38	2924
	α Aquilæ E.	69 37 6	2717	68 20 37	2727	67 4 19	2741	65 48 15	2756
	VENUS E.	93 4 1	2226	91 38 23	2216	90 12 33	2205	88 46 30	2195
	Fomalhaut E.	99 5 54	2269	97 35 2	2258	96 3 56	2247	94 32 37	2237
	SUN E.	135 28 17	2172	134 1 34	2161	132 34 38	2150	131 7 29	2138
30	Regulus W.	97 23 7	2727	98 59 11	2717	100 35 28	2707	102 11 59	2695
	SATURN W.	83 51 11	2697	85 27 55	2686	87 4 54	2675	88 42 7	2665
	Spica W.	43 25 22	2756	45 0 47	2744	46 36 29	2731	48 12 28	2718
	α Aquilæ E.	59 32 39	2366	58 18 45	2358	57 5 23	2331	55 52 35	2369
	VENUS E.	81 33 6	2140	80 5 45	2129	78 38 10	2117	77 10 21	2105
	Fomalhaut E.	86 52 47	2287	85 20 11	2276	83 47 22	2267	82 14 21	2257
	SUN E.	123 48 10	2079	122 19 35	2066	120 50 44	2055	119 21 39	2043
31	SATURN W.	96 51 55	2608	98 30 39	2596	100 9 40	2584	101 48 57	2572
	Spica W.	56 16 41	2653	57 54 24	2640	59 32 24	2626	61 10 43	2614
	α Aquilæ E.	49 59 31	2235	48 51 38	2209	47 44 54	2190	46 39 24	2181
	VENUS E.	69 47 35	2043	68 18 15	2030	66 48 40	2018	65 18 49	2005
	Fomalhaut E.	74 26 11	2211	72 51 57	2202	71 17 32	2194	69 42 56	2186
	SUN E.	111 52 18	2277	110 21 37	2265	108 50 40	2251	107 19 26	2237

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
24	Pollux W.	65° 57' 38"	3037	67° 27' 5"	3033	68° 56' 37"	3038	70° 26' 15"	3023
	Regulus W.	29 57 53	3069	31 26 25	3073	32 55 8	3065	34 24 1	3057
	Spica E.	25 12 43	3154	23 45 39	3165	22 18 48	3179	20 52 14	3198
	Antares E.	70 45 26	3044	69 16 8	3040	67 46 45	3036	66 17 17	3030
25	Pollux W.	77 55 58	2997	79 26 14	2993	80 56 37	2986	82 27 7	2981
	Regulus W.	41 50 43	3021	43 20 30	3014	44 50 26	3007	46 20 31	3000
	SATURN W.	27 54 34	2989	29 25 0	2981	30 55 36	2975	32 26 20	2967
	Antares E.	58 48 35	3009	57 18 33	3005	55 48 26	3000	54 18 13	2994
26	Pollux W.	90 1 24	2950	91 32 39	2944	93 4 2	2938	94 35 33	2931
	Regulus W.	53 53 4	2965	55 24 0	2958	56 55 6	2950	58 26 21	2943
	SATURN W.	40 2 17	2939	41 33 55	2925	43 5 42	2918	44 37 38	2912
	Antares E.	46 45 32	2969	45 14 41	2965	43 43 44	2960	42 12 41	2954
	α Aquilæ E.	95 16 1	3729	93 59 45	3731	92 43 20	3712	91 26 46	3704
27	Pollux W.	102 15 15	2997	103 47 38	2990	105 20 10	2982	106 52 52	2974
	Regulus W.	66 4 54	2906	67 37 5	2898	69 9 26	2891	70 41 56	2883
	SATURN W.	52 19 32	2874	53 52 24	2867	55 25 25	2859	56 58 36	2852
	Antares E.	34 35 54	2933	33 4 16	2928	31 32 33	2925	30 0 46	2922
	α Aquilæ E.	85 2 11	3679	83 45 2	3677	82 27 50	3675	81 10 36	3675
	VENUS E.	109 57 14	3336	108 33 44	3328	107 10 5	3319	105 46 16	3311
28	Regulus W.	78 27 6	2843	80 0 40	2832	81 34 26	2824	83 8 23	2815
	SATURN W.	64 47 7	2811	66 21 21	2801	67 55 47	2793	69 30 24	2784
	Spica W.	24 44 29	2949	26 15 54	2921	27 47 46	2902	29 20 2	2884
	α Aquilæ E.	74 44 35	3685	73 27 32	3691	72 10 35	3696	70 53 46	3707
	VENUS E.	98 44 37	3265	97 19 45	3256	95 54 42	3246	94 29 27	3236
	Fomalhaut E.	105 7 10	3011	103 37 11	3001	102 6 59	2999	100 36 33	2979
29	Regulus W.	91 1 8	2768	92 36 18	2758	94 11 41	2748	95 47 17	2738
	SATURN W.	77 26 29	2738	79 2 19	2727	80 38 23	2717	82 14 40	2707
	Spica W.	37 6 35	2810	38 40 50	2796	40 15 23	2782	41 50 14	2769
	α Aquilæ E.	64 32 27	3773	63 16 57	3792	62 1 47	3815	60 47 0	3840
	VENUS E.	87 20 15	3184	85 53 47	3174	84 27 7	3163	83 0 13	3152
	Fomalhaut E.	93 1 5	2927	91 29 20	2916	89 57 22	2906	88 25 11	2896
	SUN E.	129 40 5	3126	128 12 27	3115	126 44 36	3103	125 16 30	3091
30	Regulus W.	103 48 45	2685	105 25 45	2673	107 3 1	2663	108 40 31	2651
	SATURN W.	90 19 34	2654	91 57 16	2642	93 35 14	2631	95 13 27	2620
	Spica W.	49 48 44	2705	51 25 17	2692	53 2 8	2679	54 39 16	2666
	α Aquilæ E.	54 40 25	4019	53 28 57	4059	52 18 15	4112	51 8 25	4171
	VENUS E.	75 42 18	3093	74 14 0	3081	72 45 27	3069	71 16 39	3056
	Fomalhaut E.	80 41 7	2648	79 7 41	2638	77 34 3	2629	76 0 13	2620
	SUN E.	117 52 19	3030	116 22 43	3017	114 52 51	3004	113 22 43	2990
31	SATURN W.	103 28 31	2559	105 8 22	2547	106 48 30	2535	108 28 55	2522
	Spica W.	62 49 19	2901	64 28 13	2887	66 7 26	2874	67 46 57	2860
	α Aquilæ E.	45 35 15	4589	44 32 35	4697	43 31 33	4696	42 32 18	4970
	VENUS E.	63 48 42	2991	62 18 18	2978	60 47 38	2965	59 16 41	2950
	Fomalhaut E.	68 8 10	2778	66 33 13	2771	64 58 7	2763	63 22 51	2758
	SUN E.	105 47 54	2922	104 16 4	2909	102 43 57	2895	101 11 32	2881

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to	Diff. for 1 Hour.
		Apparent Right Ascension	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Subtracted from Apparent Time.			
		^h ^m ^s	^s	[°] ['] ^{''}	^{''}	['] ^{''}	^s ^m ^s	^s		
Wed.	1	0 42 13.28	9.100	N. 4 32 38.8	+57.85	16' 2.19	64.51	3 58.76	0.755	
Thur.	2	0 45 51.73	9.105	4 55 44.7	57.64	16 1.91	64.53	3 40.71	0.750	
Frid.	3	0 49 30.33	9.111	5 18 45.5	57.42	16 1.62	64.55	3 22.80	0.744	
Sat.	4	0 53 9.09	9.118	5 41 40.8	+57.18	16 1.34	64.57	3 5 04	0.737	
SUN.	5	0 56 48.02	9.126	6 4 30.2	56.93	16 1.06	64.59	2 47.47	0.729	
Mon.	6	1 0 27.16	9.135	6 27 13.5	56.66	16 0.78	64.62	2 30.10	0.721	
Tues.	7	1 4 6.50	9.143	6 49 50.2	+56.37	16 0.50	64.65	2 12 94	0.712	
Wed.	8	1 7 46.07	9.153	7 12 20.0	56.09	16 0.23	64.69	1 56.00	0.703	
Thur.	9	1 11 25.88	9.163	7 34 42.6	55.78	15 59.95	64.72	1 39.30	0.692	
Frid.	10	1 15 5.94	9.174	7 56 57.5	+55.46	15 59.68	64.76	1 22.85	0.681	
Sat.	11	1 18 46.26	9.186	8 19 4.4	55.12	15 59.41	64.80	1 6.66	0.669	
SUN.	12	1 22 26.87	9.198	8 41 2.9	54.76	15 59.14	64.85	0 50.76	0.657	
Mon.	13	1 26 7.77	9.210	9 2 52.6	+54.39	15 58.87	64.89	0 35.15	0.645	
Tues.	14	1 29 48.97	9.223	9 24 33.2	54.00	15 58.61	64.94	0 19.84	0.632	
Wed.	15	1 33 30.49	9.237	9 46 4.4	53.60	15 58.35	64.99	0 4.85	0.618	
Thur.	16	1 37 12.35	9.251	10 7 25.7	+53.18	15 58.09	65.05	0 9.80	0.604	
Frid.	17	1 40 54.56	9.266	10 28 36.8	52.75	15 57.83	65.10	0 24.11	0.589	
Sat.	18	1 44 37.14	9.282	10 49 37.6	52.31	15 57.57	65.16	0 38.05	0.574	
SUN.	19	1 48 20.10	9.298	11 10 27.7	+51.85	15 57.31	65.22	0 51.61	0.558	
Mon.	20	1 52 3.46	9.315	11 31 6.6	51.38	15 57.05	65.28	1 4.77	0.541	
Tues.	21	1 55 47.23	9.333	11 51 34.1	50.90	15 56.79	65.34	1 17.52	0.523	
Wed.	22	1 59 31.43	9.351	12 11 49.8	+50.40	15 56.54	65.41	1 29.84	0.505	
Thur.	23	2 3 16.08	9.370	12 31 53.4	49.89	15 56.28	65.48	1 41.72	0.486	
Frid.	24	2 7 1.19	9.390	12 51 44.7	49.37	15 56.03	65.55	1 53.14	0.466	
Sat.	25	2 10 46.77	9.410	13 11 23.4	+48.84	15 55.78	65.62	2 4.08	0.446	
SUN.	26	2 14 32.84	9.430	13 30 49.2	48.29	15 55.53	65.69	2 14.53	0.426	
Mon.	27	2 18 19.42	9.451	13 50 1.8	47.74	15 55.28	65.76	2 24.47	0.405	
Tues.	28	2 22 6.52	9.473	14 9 0.8	+47.17	15 55.03	65.84	2 33.90	0.383	
Wed.	29	2 25 54.14	9.495	14 27 45.9	46.59	15 54.78	65.91	2 42.81	0.361	
Thur.	30	2 29 42.31	9.518	14 46 16.9	45.99	15 54.53	65.99	2 51.17	0.338	
Frid.	31	2 33 31.03	9.541	N.15 4 33.4	+45.38	15 54.28	66.06	2 58.98	0.315	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0'.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ^{''}	^{''}	Added to Mean Time.		^h ^m ^s
Wed.	1	0 42 12.68	9.102	N. 4 32' 35.0	+57.86	3 58.81	0.755	0 38 13.87
Thur.	2	0 45 51.18	9.107	4 55 41.2	57.65	3 40.75	0.750	0 42 10.43
Frid.	3	0 49 29.82	9.113	5 18 42.3	57.43	3 22.84	0.744	0 46 6.98
Sat.	4	0 53 8.62	9.120	5 41 37.9	+57.19	3 5.08	0.737	0 50 3.54
SUN.	5	0 56 47.60	9.128	6 4 27.6	56.94	2 47.51	0.729	0 54 0.09
Mon.	6	1 0 26.78	9.136	6 27 11.1	56.67	2 30.13	0.721	0 57 56.65
Tues.	7	1 4 6.17	9.145	6 49 48.1	+56.38	2 12.97	0.712	1 1 53.20
Wed.	8	1 7 45.78	9.154	7 12 18.2	56.10	1 56.03	0.703	1 5 49.75
Thur.	9	1 11 25.63	9.165	7 34 41.0	55.79	1 39.32	0.692	1 9 46.31
Frid.	10	1 15 5.73	9.176	7 56 56.2	+55.47	1 22.86	0.681	1 13 42.87
Sat.	11	1 18 46.09	9.188	8 19 3.4	55.13	1 6.67	0.669	1 17 39.42
SUN.	12	1 22 26.74	9.200	8 41 2.1	- 54.77	0 50.76	0.657	1 21 35.98
Mon.	13	1 26 7.68	9.212	9 2 52.0	+54.40	0 35.15	0.645	1 25 32.53
Tues.	14	1 29 48.92	9.225	9 24 32.9	54.01	0 19.84	0.632	1 29 29.08
Wed.	15	1 33 30.48	9.239	9 46 4.4	53.61	0 4.85	0.618	1 33 25.63
Thur.	16	1 37 12.38	9.253	10 7 25.9	+53.19	0 9.80	0.604	1 37 22.18
Frid.	17	1 40 54.63	9.268	10 28 37.2	52.76	0 24.11	0.589	1 41 18.74
Sat.	18	1 44 37.24	9.283	10 49 38.2	52.32	0 38.06	0.574	1 45 15.30
SUN.	19	1 48 20.23	9.299	11 10 28.5	+51.86	0 51.62	0.558	1 49 11.85
Mon.	20	1 52 3.62	9.316	11 31 7.6	51.39	1 4.78	0.541	1 53 8.40
Tues.	21	1 55 47.43	9.334	11 51 35.2	50.91	1 17.52	0.523	1 57 4.96
Wed.	22	1 59 31.66	9.352	12 11 51.1	+50.41	1 29.85	0.505	2 1 1.51
Thur.	23	2 3 16.34	9.371	12 31 54.9	49.90	1 41.73	0.486	2 4 58.07
Frid.	24	2 7 1.48	9.391	12 51 46.3	49.38	1 53.15	0.466	2 8 54.63
Sat.	25	2 10 47.09	9.411	13 11 25.1	+48.85	2 4.09	0.446	2 12 51.18
SUN.	26	2 14 33.19	9.431	13 30 51.0	48.30	2 14.54	0.426	2 16 47.73
Mon.	27	2 18 19.80	9.452	13 50 3.7	47.74	2 24.49	0.405	2 20 44.29
Tues.	28	2 22 6.92	9.474	14 9 2.8	+47.17	2 33.92	0.383	2 24 40.84
Wed.	29	2 25 54.57	9.496	14 27 48.0	46.59	2 42.83	0.361	2 28 37.40
Thur.	30	2 29 42.76	9.519	14 46 19.0	45.99	2 51.19	0.338	2 32 33.95
Frid.	31	2 33 31.50	9.542	N. 15 4 35.6	+45.38	2 59.00	0.315	2 36 30.51

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 hour,
+ 9.8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.	
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	91	11° 29' 4.7"	29° 8.6"	147.88	— 0.20	9.9999155	+53.4	23 ^h 17 ^m 56.48 ^s	
2	92	12 28 13.0	28 16.8	147.81	0.30	0.0000440	53.4	23 14 0.57	
3	93	13 27 19.5	27 23.2	147.74	0.39	0.0001722	53.3	23 10 4.66	
4	94	14 26 24.3	26 27.8	147.66	— 0.45	0.0002998	+53.1	23 6 8.75	
5	95	15 25 27.2	25 30.6	147.58	0.48	0.0004269	52.9	23 2 12.64	
6	96	16 24 28.2	24 31.5	147.50	0.48	0.0005535	52.6	22 58 16.93	
7	97	17 23 27.4	23 30.6	147.42	— 0.45	0.0006794	+52.3	22 54 21.02	
8	98	18 22 24.7	22 27.8	147.34	0.39	0.0008044	51.9	22 50 25.11	
9	99	19 21 20.0	21 23.0	147.26	0.30	0.0009284	51.5	22 46 29.21	
10	100	20 20 13.2	20 16.1	147.17	— 0.18	0.0010515	+51.1	22 42 33.30	
11	101	21 19 4.3	19 7.1	147.09	— 0.06	0.0011737	50.7	22 38 37.39	
12	102	22 17 53.3	17 56.0	147.00	+ 0.07	0.0012950	50.3	22 34 41.48	
13	103	23 16 40.1	16 42.7	146.91	+ 0.20	0.0014154	+49.9	22 30 45.58	
14	104	24 15 24.6	15 27.1	146.81	0.34	0.0015349	49.6	22 26 49.67	
15	105	25 14 6.8	14 9.2	146.72	0.46	0.0016536	49.3	22 22 53.76	
16	106	26 12 46.8	12 49.1	146.62	+ 0.56	0.0017717	+49.1	22 18 57.85	
17	107	27 11 24.6	11 26.8	146.53	0.64	0.0018892	48.9	22 15 1.95	
18	108	28 10 0.2	10 2.3	146.44	0.69	0.0020063	48.7	22 11 6.04	
19	109	29 8 33.6	8 35.5	146.35	+ 0.71	0.0021230	+48.5	22 7 10.13	
20	110	30 7 4.8	7 6.6	146.26	0.70	0.0022393	48.4	22 3 14.23	
21	111	31 5 33.9	5 35.6	146.17	0.66	0.0023553	48.3	21 59 18.32	
22	112	32 4 1.1	4 2.7	146.09	+ 0.59	0.0024711	+48.2	21 55 22.41	
23	113	33 2 26.3	2 27.8	146.01	0.50	0.0025868	48.1	21 51 26.50	
24	114	34 0 49.6	0 51.0	145.93	0.39	0.0027023	48.1	21 47 30.59	
25	115	34 59 11.1	59 12.3	145.86	+ 0.26	0.0028175	+47.9	21 43 34.68	
26	116	35 57 30.8	57 31.9	145.79	+ 0.13	0.0029324	47.8	21 39 38.77	
27	117	36 55 48.9	55 49.9	145.72	0.00	0.0030468	47.6	21 35 42.86	
28	118	37 54 5.4	54 6.3	145.66	— 0.12	0.0031607	+47.3	21 31 46.95	
29	119	38 52 20.4	52 21.1	145.59	0.23	0.0032740	47.0	21 27 51.05	
30	120	39 50 33.8	50 34.4	145.53	0.32	0.0033866	46.6	21 23 55.14	
31	121	40 48 45.8	48 46.2	145.47	— 0.39	0.0034983	+46.2	21 19 59.23	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^d .0.								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)	

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI-DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 44.9	15' 50.8	57' 41.2	+1.78	58' 2.8	+1.82	18 12.4	2.45	22.0
2	15 56.8	16 2.8	58 24.8	1.85	58 46.8	1.82	19 11.9	2.47	23.0
3	16 8.7	16 14.4	59 8.5	1.78	59 29.4	1.69	20 11.0	2.43	24.0
4	16 19.7	16 24.6	59 49.1	+1.56	60 6.9	+1.39	21 8.4	2.35	25.0
5	16 28.7	16 32.2	60 22.4	1.17	60 34.9	0.91	22 3.6	2.26	26.0
6	16 34.7	16 36.2	60 44.2	+0.61	60 49.6	+0.28	22 56.7	2.19	27.0
7	16 36.5	16 35.7	60 50.9	-0.07	60 47.9	-0.43	23 48.6	2.16	28.0
8	16 33.7	16 30.6	60 40.6	0.78	60 29.1	1.12	δ		29.0
9	16 26.4	16 21.3	60 13.7	1.43	59 54.8	1.70	0 40.3	2.16	0.6
10	16 15.3	16 8.7	59 32.9	-1.93	59 8.6	-2.10	1 32.5	2.20	1.6
11	16 1.6	15 54.2	58 42.6	2.21	58 15.5	2.28	2 25.8	2.25	2.6
12	15 46.4	15 39.2	57 47.9	2.30	57 20.4	2.26	3 20.3	2.28	3.6
13	15 31.9	15 24.9	56 53.6	-2.19	56 27.8	-2.09	4 15.3	2.28	4.6
14	15 18.3	15 12.2	56 3.6	1.94	55 41.2	1.78	5 9.9	2.24	5.6
15	15 6.7	15 1.8	55 20.8	1.60	55 2.8	1.41	6 2.9	2.15	6.6
16	14 57.5	14 53.9	54 47.1	-1.20	54 34.0	-0.99	6 53.3	2.04	7.6
17	14 51.0	14 48.8	54 23.3	0.78	54 15.2	0.58	7 40.9	1.92	8.6
18	14 47.3	14 46.4	54 9.5	-0.37	54 6.3	-0.18	8 25.7	1.82	9.6
19	14 46.1	14 46.4	54 5.3	0.00	54 6.4	+0.18	9 8.3	1.74	10.6
20	14 47.3	14 48.6	54 9.7	+0.35	54 14.6	0.49	9 49.4	1.70	11.6
21	14 50.5	14 52.7	54 21.3	0.63	54 29.6	0.75	10 29.9	1.69	12.6
22	14 55.3	14 58.3	54 39.2	+0.85	54 49.9	+0.94	11 10.7	1.73	13.6
23	15 1.4	15 4.9	55 1.6	1.02	55 14.2	1.08	11 52.8	1.80	14.6
24	15 8.5	15 12.2	55 27.4	1.13	55 41.2	1.17	12 37.1	1.91	15.6
25	15 16.1	15 20.1	55 55.4	+1.20	56 10.0	+1.23	13 24.5	2.05	16.6
26	15 24.1	15 28.2	56 24.8	1.25	56 39.9	1.27	14 15.4	2.20	17.6
27	15 32.3	15 36.5	56 55.1	1.28	57 10.4	1.29	15 10.0	2.33	18.6
28	15 40.7	15 44.9	57 25.8	+1.20	57 41.2	+1.29	16 7.3	2.42	19.6
29	15 49.1	15 53.3	57 56.6	1.28	58 11.9	1.27	17 6.0	2.44	20.6
30	15 57.4	16 1.4	58 27.0	1.25	58 41.8	1.22	18 4.3	2.39	21.6
31	16 5.3	16 9.0	58 56.1	+1.17	59 9.6	+1.10	19 0.8	2.30	22.6

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	18 8 5.36	2.4718	S. 25° 36' 15.8"	2.238	0	20 9 28.70	2.5439	S. 24° 16' 41.4"	5.647
1	18 10 33.79	2.4758	25 38 25.5	2.084	1	20 12 1.30	2.5427	24 10 57.7	5.811
2	18 13 2.46	2.4797	25 40 25.9	1.969	2	20 14 33.82	2.5413	24 5 4.1	5.975
3	18 15 31.36	2.4836	25 42 17.0	1.774	3	20 17 6.26	2.5399	23 59 0.7	6.138
4	18 18 0.49	2.4873	25 43 58.8	1.617	4	20 19 38.61	2.5385	23 52 47.5	6.301
5	18 20 29.84	2.4909	25 45 31.1	1.460	5	20 22 10.88	2.5370	23 46 24.5	6.464
6	18 22 59.40	2.4944	25 46 54.0	1.303	6	20 24 43.05	2.5355	23 39 51.8	6.626
7	18 25 29.17	2.4978	25 48 7.5	1.145	7	20 27 15.12	2.5336	23 33 9.4	6.787
8	18 27 59.14	2.5011	25 49 11.4	0.985	8	20 29 47.08	2.5318	23 26 17.4	6.948
9	18 30 29.30	2.5043	25 50 5.7	0.825	9	20 32 18.93	2.5299	23 19 15.7	7.108
10	18 32 59.66	2.5075	25 50 50.4	0.665	10	20 34 50.67	2.5279	23 12 4.4	7.267
11	18 35 30.20	2.5104	25 51 25.5	0.504	11	20 37 22.28	2.5258	23 4 43.6	7.425
12	18 38 0.91	2.5133	25 51 50.9	0.342	12	20 39 53.77	2.5237	22 57 13.4	7.582
13	18 40 31.79	2.5161	25 52 6.6	0.180	13	20 42 25.13	2.5215	22 49 33.7	7.740
14	18 43 2.84	2.5188	25 52 12.5	- 0.017	14	20 44 56.35	2.5192	22 41 44.6	7.897
15	18 45 34.05	2.5214	25 52 8.6	+ 0.147	15	20 47 27.43	2.5168	22 33 46.1	8.052
16	18 48 5.41	2.5239	25 51 54.9	0.310	16	20 49 58.36	2.5143	22 25 38.3	8.207
17	18 50 36.92	2.5262	25 51 31.4	0.473	17	20 52 29.14	2.5118	22 17 21.3	8.360
18	18 53 8.56	2.5285	25 50 58.1	0.637	18	20 54 59.78	2.5093	22 8 55.1	8.513
19	18 55 40.34	2.5307	25 50 14.9	0.803	19	20 57 30.26	2.5066	22 0 19.8	8.665
20	18 58 12.24	2.5327	25 49 21.7	0.969	20	21 0 0.57	2.5038	21 51 35.3	8.817
21	19 0 44.26	2.5346	25 48 18.6	1.135	21	21 2 30.72	2.5011	21 42 41.8	8.966
22	19 3 16.39	2.5364	25 47 5.5	1.301	22	21 5 0.70	2.4983	21 33 39.4	9.115
23	19 5 48.63	2.5381	S. 25° 45' 42.5"	1.467	23	21 7 30.51	2.4953	S. 21° 24' 28.0"	9.263
THURSDAY 2.					SATURDAY 4.				
0	19 8 20.96	2.5396	S. 25° 44' 9.5"	1.634	0	21 10 0.14	2.4923	S. 21° 15' 7.8"	9.410
1	19 10 53.38	2.5411	25 42 26.5	1.801	1	21 12 29.59	2.4893	21 5 38.8	9.556
2	19 13 25.89	2.5425	25 40 33.4	1.968	2	21 14 58.86	2.4863	20 56 1.1	9.700
3	19 15 58.48	2.5437	25 38 30.3	2.136	3	21 17 27.95	2.4832	20 46 14.8	9.843
4	19 18 31.14	2.5448	25 36 17.1	2.303	4	21 19 56.85	2.4801	20 36 19.9	9.986
5	19 21 3.86	2.5458	25 33 53.9	2.471	5	21 22 25.56	2.4769	20 26 16.5	10.127
6	19 23 36.64	2.5467	25 31 20.6	2.639	6	21 24 54.08	2.4737	20 16 4.6	10.267
7	19 26 9.47	2.5475	25 28 37.2	2.807	7	21 27 22.40	2.4704	20 5 44.4	10.406
8	19 28 42.34	2.5482	25 25 43.8	2.974	8	21 29 50.52	2.4671	19 55 15.9	10.544
9	19 31 15.25	2.5487	25 22 40.3	3.142	9	21 32 18.45	2.4638	19 44 39.1	10.681
10	19 33 48.19	2.5492	25 19 26.7	3.311	10	21 34 46.18	2.4604	19 33 54.2	10.816
11	19 36 21.15	2.5495	25 16 3.0	3.479	11	21 37 13.70	2.4569	19 23 1.2	10.950
12	19 38 54.13	2.5497	25 12 29.2	3.647	12	21 39 41.01	2.4535	19 12 0.2	11.083
13	19 41 27.12	2.5498	25 8 45.4	3.814	13	21 42 8.12	2.4501	19 0 51.3	11.213
14	19 44 0.11	2.5497	25 4 51.5	3.982	14	21 44 35.02	2.4466	18 49 34.6	11.343
15	19 46 33.09	2.5496	25 0 47.5	4.150	15	21 47 1.71	2.4431	18 38 10.1	11.472
16	19 49 6.06	2.5494	24 56 33.5	4.317	16	21 49 28.19	2.4396	18 26 38.0	11.598
17	19 51 39.02	2.5491	24 52 9.5	4.484	17	21 51 54.46	2.4360	18 14 58.3	11.724
18	19 54 11.95	2.5486	24 47 35.4	4.651	18	21 54 20.51	2.4324	18 3 11.1	11.848
19	19 56 44.85	2.5481	24 42 51.3	4.818	19	21 56 46.35	2.4289	17 51 16.5	11.972
20	19 59 17.72	2.5474	24 37 57.2	4.984	20	21 59 11.98	2.4253	17 39 14.5	12.093
21	20 1 50.54	2.5466	24 32 53.2	5.150	21	22 1 37.39	2.4217	17 27 5.3	12.213
22	20 4 23.31	2.5458	24 27 39.2	5.316	22	22 4 2.59	2.4182	17 14 48.9	12.332
23	20 6 56.03	2.5449	24 22 15.3	5.482	23	22 6 27.57	2.4146	17 2 25.4	12.449
24	20 9 28.70	2.5439	S. 24° 16' 41.4"	5.647	24	22 8 52.34	2.4110	S. 16° 49' 55.0"	12.564

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	^h 22 ^m 8 ^s 52.34	2.4110	S. 16° 49' 55.0	12.564	0	^h 0 ^m 0 ^s 49.54	2.2679	S. 5° 5' 24.8	16.108
1	22 11 16.89	2.4073	16 37 17.7	12.678	1	0 3 5.56	2.2661	4 49 17.4	16.137
2	22 13 41.22	2.4037	16 24 33.6	12.791	2	0 5 21.47	2.2643	4 33 8.3	16.165
3	22 16 5.34	2.4002	16 11 42.8	12.902	3	0 7 37.27	2.2625	4 16 57.6	16.191
4	22 18 29.24	2.3966	15 58 45.4	13.011	4	0 9 52.97	2.2608	4 0 45.4	16.214
5	22 20 52.93	2.3931	15 45 41.5	13.118	5	0 12 8.57	2.2592	3 44 31.9	16.236
6	22 23 16.41	2.3895	15 32 31.2	13.224	6	0 14 24.08	2.2577	3 28 17.1	16.256
7	22 25 39.67	2.3859	15 19 14.6	13.328	7	0 16 39.49	2.2562	3 12 1.2	16.273
8	22 28 2.72	2.3823	15 5 51.8	13.432	8	0 18 54.82	2.2547	2 55 44.3	16.289
9	22 30 25.55	2.3787	14 52 22.8	13.533	9	0 21 10.06	2.2533	2 39 26.5	16.303
10	22 32 48.17	2.3752	14 38 47.8	13.633	10	0 23 25.22	2.2520	2 23 7.9	16.316
11	22 35 10.58	2.3718	14 25 6.9	13.731	11	0 25 40.30	2.2508	2 6 48.6	16.327
12	22 37 32.79	2.3684	14 11 20.1	13.827	12	0 27 55.31	2.2496	1 50 28.7	16.335
13	22 39 54.79	2.3649	13 57 27.6	13.922	13	0 30 10.25	2.2485	1 34 8.4	16.341
14	22 42 16.58	2.3614	13 43 29.5	14.014	14	0 32 25.13	2.2474	1 17 47.8	16.346
15	22 44 38.16	2.3580	13 29 25.9	14.105	15	0 34 39.94	2.2463	1 1 26.9	16.349
16	22 46 59.54	2.3546	13 15 16.9	14.195	16	0 36 54.69	2.2454	0 45 5.9	16.350
17	22 49 20.72	2.3512	13 1 2.5	14.283	17	0 39 9.39	2.2446	0 28 44.9	16.349
18	22 51 41.69	2.3479	12 46 42.9	14.369	18	0 41 24.04	2.2438	S. 0 12 24.0	16.347
19	22 54 2.47	2.3447	12 32 18.2	14.453	19	0 43 38.64	2.2430	N. 0 3 56.7	16.342
20	22 56 23.05	2.3414	12 17 48.5	14.536	20	0 45 53.20	2.2423	0 20 17.1	16.336
21	22 58 43.44	2.3382	12 3 13.9	14.617	21	0 48 7.72	2.2417	0 36 37.0	16.327
22	23 1 3.63	2.3349	11 48 34.5	14.695	22	0 50 22.20	2.2411	0 52 56.4	16.317
23	23 3 23.63	2.3318	S. 11 33 50.5	14.779	23	0 52 36.65	2.2406	N. 1 9 15.1	16.305
MONDAY 6.					WEDNESDAY 8.				
0	23 5 43.45	2.3287	S. 11 19 1.9	14.848	0	0 54 51.07	2.2402	N. 1 25 33.0	16.291
1	23 8 3.08	2.3257	11 4 8.8	14.922	1	0 57 5.47	2.2396	1 41 50.0	16.276
2	23 10 22.53	2.3226	10 49 11.3	14.993	2	0 59 19.85	2.2394	1 58 6.1	16.259
3	23 12 41.79	2.3196	10 34 9.6	15.063	3	1 1 34.20	2.2391	2 14 21.1	16.240
4	23 15 0.88	2.3167	10 19 3.7	15.132	4	1 3 48.54	2.2389	2 30 34.9	16.218
5	23 17 19.79	2.3138	10 3 53.8	15.198	5	1 6 2.87	2.2387	2 46 47.3	16.195
6	23 19 38.53	2.3109	9 48 40.0	15.262	6	1 8 17.19	2.2387	3 2 58.3	16.171
7	23 21 57.10	2.3081	9 33 22.4	15.325	7	1 10 31.51	2.2387	3 19 7.8	16.144
8	23 24 15.50	2.3053	9 18 1.0	15.387	8	1 12 45.83	2.2387	3 35 15.6	16.116
9	23 26 33.73	2.3025	9 2 36.0	15.446	9	1 15 0.15	2.2387	3 51 21.7	16.086
10	23 28 51.80	2.2999	8 47 7.5	15.503	10	1 17 14.48	2.2389	4 7 25.9	16.054
11	23 31 9.72	2.2973	8 31 35.6	15.558	11	1 19 28.82	2.2392	4 23 28.2	16.021
12	23 33 27.48	2.2947	8 16 0.5	15.612	12	1 21 43.18	2.2394	4 39 28.4	15.985
13	23 35 45.08	2.2922	8 0 22.2	15.663	13	1 23 57.55	2.2397	4 55 26.4	15.947
14	23 38 2.54	2.2898	7 44 40.9	15.713	14	1 26 11.94	2.2401	5 11 22.1	15.909
15	23 40 19.85	2.2873	7 28 56.6	15.762	15	1 28 26.36	2.2406	5 27 15.5	15.869
16	23 42 37.01	2.2849	7 13 9.5	15.807	16	1 30 40.81	2.2411	5 43 6.4	15.827
17	23 44 54.03	2.2826	6 57 19.7	15.851	17	1 32 55.29	2.2416	5 58 54.7	15.782
18	23 47 10.92	2.2803	6 41 27.4	15.893	18	1 35 9.80	2.2421	6 14 40.3	15.737
19	23 49 27.67	2.2781	6 25 32.6	15.934	19	1 37 24.34	2.2427	6 30 23.1	15.689
20	23 51 44.29	2.2760	6 9 35.3	15.973	20	1 39 38.92	2.2434	6 46 3.0	15.640
21	23 54 0.79	2.2739	5 53 35.8	16.010	21	1 41 53.55	2.2442	7 1 39.9	15.589
22	23 56 17.16	2.2718	5 37 34.1	16.045	22	1 44 8.23	2.2451	7 17 13.7	15.537
23	23 58 33.41	2.2698	5 21 30.4	16.078	23	1 46 22.96	2.2459	7 32 44.3	15.489
24	0 0 49.54	2.2679	S. 5 5 24.8	16.108	24	1 48 37.74	2.2468	N. 7 48 11.5	15.435

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	^h 1 ^m 48 ^s 37.74	2.2468	N. 7° 48' 11.5"	15.495	0	^h 3 ^m 38 ^s 11.88	2.3268	N. 18° 35' 25.6"	11.020
1	1 50 52.58	2.2477	8 3 35.3	15.368	1	3 40 31.54	2.3287	18 46 23.2	10.898
2	1 53 7.47	2.2487	8 18 55.7	15.310	2	3 42 51.32	2.3306	18 57 13.4	10.775
3	1 55 22.42	2.2497	8 34 12.5	15.249	3	3 45 11.21	2.3324	19 7 56.2	10.651
4	1 57 37.44	2.2508	8 49 25.6	15.187	4	3 47 31.21	2.3343	19 18 31.5	10.527
5	1 59 52.52	2.2519	9 4 34.9	15.123	5	3 49 51.32	2.3362	19 28 59.4	10.402
6	2 2 7.67	2.2532	9 19 40.3	15.057	6	3 52 11.55	2.3380	19 39 19.7	10.275
7	2 4 22.90	2.2544	9 34 41.7	14.989	7	3 54 31.88	2.3397	19 49 32.4	10.147
8	2 6 38.20	2.2556	9 49 39.0	14.921	8	3 56 52.32	2.3415	19 59 37.4	10.018
9	2 8 53.57	2.2568	10 4 32.2	14.851	9	3 59 12.86	2.3432	20 9 34.6	9.888
10	2 11 9.02	2.2582	10 19 21.1	14.778	10	4 1 33.50	2.3449	20 19 24.0	9.758
11	2 13 24.56	2.2597	10 34 5.6	14.705	11	4 3 54.25	2.3466	20 29 5.6	9.626
12	2 15 40.18	2.2611	10 48 45.7	14.630	12	4 6 15.10	2.3483	20 38 39.4	9.497
13	2 17 55.89	2.2625	11 3 21.2	14.553	13	4 8 36.05	2.3499	20 48 5.2	9.364
14	2 20 11.68	2.2639	11 17 52.1	14.476	14	4 10 57.09	2.3514	20 57 23.1	9.231
15	2 22 27.56	2.2655	11 32 18.3	14.396	15	4 13 18.22	2.3529	21 6 33.0	9.097
16	2 24 43.54	2.2671	11 46 39.6	14.314	16	4 15 39.44	2.3544	21 15 34.8	8.963
17	2 26 59.61	2.2687	12 0 56.0	14.232	17	4 18 0.75	2.3559	21 24 28.5	8.827
18	2 29 15.78	2.2703	12 15 7.5	14.149	18	4 20 22.15	2.3573	21 33 14.1	8.692
19	2 31 32.05	2.2720	12 29 13.9	14.063	19	4 22 43.63	2.3587	21 41 51.5	8.555
20	2 33 48.42	2.2736	12 43 15.1	13.976	20	4 25 5.19	2.3600	21 50 20.7	8.418
21	2 36 4.88	2.2753	12 57 11.0	13.887	21	4 27 26.83	2.3614	21 58 41.7	8.281
22	2 38 21.45	2.2771	13 11 1.6	13.798	22	4 29 48.55	2.3627	22 6 54.4	8.142
23	2 40 38.13	2.2788	N. 13° 24' 46.8"	13.707	23	4 32 10.35	2.3639	N. 22° 14' 58.8"	8.003
FRIDAY 10.					SUNDAY 12.				
0	2 42 54.91	2.2806	N. 13° 38' 26.4"	13.614	0	4 34 32.22	2.3650	N. 22° 22' 54.8"	7.863
1	2 45 11.80	2.2824	13 52 0.4	13.530	1	4 36 54.15	2.3661	22 30 42.4	7.723
2	2 47 28.80	2.2842	14 5 28.8	13.446	2	4 39 16.15	2.3672	22 38 21.6	7.583
3	2 49 45.91	2.2861	14 18 51.5	13.362	3	4 41 38.21	2.3682	22 45 52.4	7.442
4	2 52 3.13	2.2879	14 32 8.3	13.281	4	4 44 0.33	2.3691	22 53 14.7	7.301
5	2 54 20.46	2.2898	14 45 19.2	13.199	5	4 46 22.50	2.3699	23 0 28.5	7.158
6	2 56 37.91	2.2917	14 58 24.2	13.113	6	4 48 44.72	2.3707	23 7 33.7	7.016
7	2 58 55.47	2.2936	15 11 23.1	13.030	7	4 51 6.99	2.3715	23 14 30.4	6.873
8	3 1 13.14	2.2955	15 24 15.8	12.947	8	4 53 29.30	2.3723	23 21 18.5	6.731
9	3 3 30.93	2.2975	15 37 2.3	12.863	9	4 55 51.66	2.3730	23 27 58.1	6.587
10	3 5 48.84	2.2994	15 49 42.5	12.781	10	4 58 14.06	2.3736	23 34 29.0	6.443
11	3 8 6.86	2.3013	16 2 16.4	12.691	11	5 0 36.49	2.3740	23 40 51.3	6.299
12	3 10 25.00	2.3033	16 14 43.8	12.602	12	5 2 58.94	2.3744	23 47 4.9	6.154
13	3 12 43.26	2.3053	16 27 4.7	12.513	13	5 5 21.42	2.3748	23 53 9.8	6.009
14	3 15 1.64	2.3072	16 39 19.0	12.423	14	5 7 43.92	2.3752	23 59 6.0	5.865
15	3 17 20.13	2.3092	16 51 26.7	12.333	15	5 10 6.44	2.3755	24 4 53.6	5.720
16	3 19 38.74	2.3112	17 3 27.7	12.243	16	5 12 28.98	2.3757	24 10 32.4	5.574
17	3 21 57.47	2.3132	17 15 21.9	12.153	17	5 14 51.53	2.3758	24 16 2.5	5.429
18	3 24 16.32	2.3152	17 27 9.2	12.063	18	5 17 14.08	2.3758	24 21 23.9	5.283
19	3 26 35.29	2.3171	17 38 49.6	11.973	19	5 19 36.63	2.3758	24 26 36.5	5.137
20	3 28 54.37	2.3190	17 50 23.0	11.883	20	5 21 59.18	2.3758	24 31 40.3	4.990
21	3 31 13.57	2.3210	18 1 49.4	11.793	21	5 24 21.73	2.3757	24 36 35.3	4.844
22	3 33 32.89	2.3230	18 13 8.7	11.703	22	5 26 44.26	2.3754	24 41 21.6	4.698
23	3 35 52.33	2.3249	18 24 20.8	11.613	23	5 29 6.78	2.3751	24 45 59.1	4.552
24	3 38 11.88	2.3268	N. 18° 35' 25.6"	11.523	24	5 31 29.28	2.3748	N. 24° 50' 27.8"	4.405

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	h m s	s	N. 24° 50' 27.8"	4.405	0	h m s	s	N. 25° 36' 20.1"	2.351
1	5 31 29.28	2.3748	24 54 47.7	4.358	1	7 23 37.97	2.3708	25 33 55.2	2.480
2	5 33 51.76	2.3744	24 58 58.8	4.112	2	7 25 54.11	2.3671	25 31 22.5	2.609
3	5 36 14.21	2.3738	25 3 1.2	3.966	3	7 28 10.02	2.3633	25 28 42.1	2.737
4	5 38 36.62	2.3733	25 6 54.8	3.819	4	7 30 25.70	2.3594	25 25 54.1	2.863
5	5 40 58.99	2.3725	25 10 39.5	3.673	5	7 32 41.15	2.3556	25 22 58.6	2.988
6	5 43 21.32	2.3717	25 14 15.4	3.526	6	7 34 56.37	2.3517	25 19 55.5	3.114
7	5 45 43.60	2.3709	25 17 42.6	3.380	7	7 37 11.35	2.3477	25 16 44.9	3.239
8	5 48 5.83	2.3700	25 21 1.0	3.233	8	7 39 26.09	2.3437	25 13 26.8	3.363
9	5 50 28.00	2.3691	25 24 10.6	3.087	9	7 41 40.59	2.3396	25 10 1.3	3.486
10	5 52 50.12	2.3681	25 27 11.4	2.941	10	7 43 54.84	2.3355	25 6 28.5	3.608
11	5 55 12.17	2.3669	25 30 3.5	2.795	11	7 46 8.85	2.3314	25 2 48.4	3.730
12	5 57 34.15	2.3657	25 32 46.8	2.649	12	7 48 22.61	2.3273	24 59 0.9	3.852
13	5 59 56.06	2.3645	25 35 21.4	2.504	13	7 50 36.12	2.3231	24 55 6.2	3.971
14	6 2 17.89	2.3633	25 37 47.3	2.358	14	7 52 49.38	2.3188	24 51 4.4	4.090
15	6 4 39.63	2.3617	25 40 4.4	2.212	15	7 55 2.28	2.3145	24 46 55.4	4.209
16	6 7 1.29	2.3602	25 42 12.8	2.068	16	7 57 15.12	2.3102	24 42 39.3	4.327
17	6 9 22.86	2.3586	25 44 12.6	1.924	17	7 59 27.61	2.3059	24 38 16.2	4.444
18	6 11 44.33	2.3569	25 46 3.7	1.779	18	8 1 39.83	2.3015	24 33 46.0	4.561
19	6 14 5.69	2.3553	25 47 46.1	1.635	19	8 3 51.79	2.2972	24 29 8.9	4.676
20	6 16 26.95	2.3534	25 49 19.9	1.492	20	8 6 3.49	2.2928	24 24 24.9	4.791
21	6 18 48.10	2.3515	25 50 45.1	1.348	21	8 8 14.92	2.2883	24 19 34.0	4.905
22	6 21 9.13	2.3495	25 52 1.7	1.205	22	8 10 26.09	2.2839	24 14 36.3	5.018
23	6 23 30.04	2.3475	N. 25° 53' 9.7"	1.060	23	8 12 36.99	2.2794	N. 24° 9' 31.9"	5.130
24	6 25 50.83	2.3454				8 14 47.62	2.2749		
TUESDAY 14.					THURSDAY 16.				
0	6 28 11.49	2.3432	N. 25° 54' 9.1"	0.919	0	8 16 57.98	2.1704	N. 24° 4' 20.7"	5.942
1	6 30 32.01	2.3409	25 55 0.0	0.777	1	8 19 8.07	2.1659	23 59 2.8	5.352
2	6 32 52.40	2.3386	25 55 42.4	0.636	2	8 21 17.89	2.1614	23 53 38.4	5.469
3	6 35 12.65	2.3363	25 56 16.3	0.494	3	8 23 27.44	2.1568	23 48 7.4	5.571
4	6 37 32.75	2.3338	25 56 41.7	0.353	4	8 25 36.71	2.1522	23 42 29.9	5.679
5	6 39 52.70	2.3313	25 56 58.7	0.213	5	8 27 45.71	2.1477	23 36 45.9	5.787
6	6 42 12.50	2.3286	25 57 7.3	+ 0.074	6	8 29 54.44	2.1432	23 30 55.5	5.893
7	6 44 32.14	2.3259	25 57 7.6	- 0.065	7	8 32 2.89	2.1386	23 24 58.7	5.999
8	6 46 51.61	2.3232	25 56 59.5	0.905	8	8 34 11.07	2.1340	23 18 55.6	6.104
9	6 49 10.92	2.3204	25 56 43.0	0.764	9	8 36 18.97	2.1293	23 12 46.2	6.208
10	6 51 30.06	2.3175	25 56 18.2	0.622	10	8 38 26.59	2.1247	23 6 30.6	6.312
11	6 53 49.02	2.3146	25 55 45.2	0.481	11	8 40 33.94	2.1200	23 0 8.8	6.414
12	6 56 7.81	2.3117	25 55 4.0	0.340	12	8 42 41.01	2.1152	22 53 40.9	6.516
13	6 58 26.42	2.3086	25 54 14.6	0.200	13	8 44 47.81	2.1110	22 47 6.9	6.617
14	7 0 44.84	2.3054	25 53 17.0	0.058	14	8 46 54.33	2.1063	22 40 26.9	6.717
15	7 3 3.06	2.3021	25 52 11.3	0.916	15	8 49 0.57	2.1017	22 33 40.9	6.816
16	7 5 21.09	2.2988	25 50 57.5	1.274	16	8 51 6.54	2.0972	22 26 49.0	6.914
17	7 7 38.92	2.2956	25 49 35.6	1.432	17	8 53 12.23	2.0926	22 19 51.2	7.012
18	7 9 56.56	2.2923	25 48 5.7	1.290	18	8 55 17.65	2.0880	22 12 47.6	7.108
19	7 12 13.99	2.2889	25 46 27.8	1.148	19	8 57 22.79	2.0834	22 5 38.2	7.204
20	7 14 31.21	2.2854	25 44 42.0	1.006	20	8 59 27.66	2.0788	21 58 23.1	7.299
21	7 16 48.23	2.2818	25 42 48.3	0.864	21	9 1 32.25	2.0742	21 51 2.3	7.393
22	7 19 5.03	2.2782	25 40 46.7	0.722	22	9 3 36.57	2.0697	21 43 35.9	7.487
23	7 21 21.61	2.2745	25 38 37.3	0.580	23	9 5 40.62	2.0652	21 36 3.8	7.581
24	7 23 37.97	2.2708	N. 25° 36' 20.1"	2.351	24	9 7 44.40	2.0607	N. 21° 28' 26.2"	7.675

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	9 7 44.40	2.0607	N. 21° 28' 26.2"	7.672	0	10 41 56.17	1.8778	N. 13° 49' 26.0"	11.159
1	9 9 47.90	2.0562	21 20 43.1	7.763	1	10 43 48.75	1.8750	13 38 14.8	11.213
2	9 11 51.14	2.0517	21 12 54.6	7.853	2	10 45 41.17	1.8722	13 27 0.4	11.266
3	9 13 54.11	2.0472	21 5 0.7	7.943	3	10 47 33.42	1.8695	13 15 42.8	11.319
4	9 15 56.81	2.0428	20 57 1.4	8.031	4	10 49 25.51	1.8668	13 4 22.1	11.372
5	9 17 59.25	2.0384	20 48 56.9	8.118	5	10 51 17.44	1.8642	12 52 58.2	11.424
6	9 20 1.42	2.0340	20 40 47.2	8.205	6	10 53 9.22	1.8617	12 41 31.2	11.475
7	9 22 3.33	2.0296	20 32 32.3	8.292	7	10 55 0.84	1.8592	12 30 1.2	11.524
8	9 24 4.97	2.0252	20 24 12.2	8.375	8	10 56 52.32	1.8567	12 18 28.3	11.573
9	9 26 6.35	2.0208	20 15 46.9	8.463	9	10 58 43.65	1.8543	12 6 52.4	11.622
10	9 28 7.47	2.0165	20 7 16.6	8.546	10	11 0 34.84	1.8520	11 55 13.6	11.671
11	9 30 8.33	2.0122	19 58 41.4	8.629	11	11 2 25.89	1.8497	11 43 31.9	11.718
12	9 32 8.93	2.0079	19 50 1.2	8.711	12	11 4 16.80	1.8474	11 31 47.4	11.765
13	9 34 9.28	2.0037	19 41 16.1	8.792	13	11 6 7.58	1.8452	11 20 0.1	11.811
14	9 36 9.37	1.9994	19 32 26.1	8.873	14	11 7 58.23	1.8431	11 8 10.1	11.856
15	9 38 9.21	1.9952	19 23 31.3	8.953	15	11 9 48.75	1.8410	10 56 17.4	11.900
16	9 40 8.80	1.9911	19 14 31.8	9.032	16	11 11 39.15	1.8390	10 44 22.1	11.944
17	9 42 8.14	1.9870	19 5 27.5	9.111	17	11 13 29.43	1.8371	10 32 24.2	11.988
18	9 44 7.24	1.9829	18 56 18.5	9.188	18	11 15 19.60	1.8352	10 20 23.6	12.031
19	9 46 6.09	1.9788	18 47 4.9	9.264	19	11 17 9.65	1.8333	10 8 20.5	12.072
20	9 48 4.70	1.9747	18 37 46.8	9.340	20	11 18 59.59	1.8314	9 56 15.0	12.113
21	9 50 3.06	1.9707	18 28 24.1	9.416	21	11 20 49.42	1.8297	9 44 7.0	12.153
22	9 52 1.19	1.9668	18 18 56.9	9.490	22	11 22 39.15	1.8280	9 31 56.6	12.192
23	9 53 59.08	1.9628	N. 18° 9' 25.3"	9.563	23	11 24 28.78	1.8264	N. 9° 19' 43.9"	12.232
SATURDAY 18.					MONDAY 20.				
0	9 55 56.73	1.9589	N. 17° 59' 49.3"	9.636	0	11 26 18.32	1.8248	N. 9° 7' 28.8"	12.271
1	9 57 54.15	1.9551	17 50 8.9	9.708	1	11 28 7.76	1.8232	8 55 11.4	12.308
2	9 59 51.34	1.9513	17 40 24.3	9.779	2	11 29 57.11	1.8218	8 42 51.8	12.344
3	10 1 48.31	1.9476	17 30 35.4	9.850	3	11 31 46.38	1.8205	8 30 30.1	12.380
4	10 3 45.05	1.9438	17 20 42.3	9.919	4	11 33 35.57	1.8191	8 18 6.2	12.416
5	10 5 41.56	1.9400	17 10 45.1	9.988	5	11 35 24.67	1.8177	8 5 40.2	12.452
6	10 7 37.85	1.9363	17 0 43.7	10.057	6	11 37 13.69	1.8164	7 53 12.0	12.486
7	10 9 33.92	1.9327	16 50 38.3	10.124	7	11 39 2.64	1.8153	7 40 41.8	12.519
8	10 11 29.78	1.9292	16 40 28.9	10.191	8	11 40 51.53	1.8142	7 28 9.7	12.552
9	10 13 25.42	1.9256	16 30 15.4	10.257	9	11 42 40.35	1.8132	7 15 35.6	12.584
10	10 15 20.85	1.9221	16 19 58.0	10.322	10	11 44 29.11	1.8122	7 2 59.6	12.615
11	10 17 16.07	1.9187	16 9 36.7	10.387	11	11 46 17.81	1.8112	6 50 21.8	12.646
12	10 19 11.09	1.9153	15 59 11.6	10.450	12	11 48 6.45	1.8103	6 37 42.1	12.677
13	10 21 5.91	1.9119	15 48 42.7	10.513	13	11 49 55.04	1.8094	6 25 0.6	12.706
14	10 23 0.52	1.9085	15 38 10.0	10.576	14	11 51 43.58	1.8087	6 12 17.4	12.733
15	10 24 54.93	1.9052	15 27 33.6	10.637	15	11 53 32.08	1.8080	5 59 32.6	12.761
16	10 26 49.15	1.9020	15 16 53.6	10.698	16	11 55 20.54	1.8073	5 46 46.1	12.788
17	10 28 43.17	1.8988	15 6 9.9	10.758	17	11 57 8.96	1.8067	5 33 58.0	12.816
18	10 30 37.00	1.8957	14 55 22.6	10.817	18	11 58 57.35	1.8062	5 21 8.2	12.842
19	10 32 30.65	1.8926	14 44 31.8	10.876	19	12 0 45.71	1.8057	5 8 16.9	12.867
20	10 34 24.11	1.8895	14 33 37.5	10.934	20	12 2 34.04	1.8052	4 55 24.2	12.891
21	10 36 17.39	1.8865	14 22 39.7	10.992	21	12 4 22.34	1.8048	4 42 30.0	12.915
22	10 38 10.49	1.8836	14 11 38.5	11.048	22	12 6 10.62	1.8046	4 29 34.4	12.938
23	10 40 3.42	1.8807	14 0 33.9	11.104	23	12 7 58.89	1.8044	4 16 37.5	12.960
24	10 41 56.17	1.8778	N. 13° 49' 26.0"	11.159	24	12 9 47.15	1.8043	N. 4° 3' 39.2"	12.982

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	12 9 47.15	1.8043	N. 4 3 39.2	12.968	0	13 37 21.07	1.8681	S. 6 30 5.6	13.119
1	12 11 35.40	1.8042	3 50 39.7	13.003	1	13 39 13.24	1.8709	6 43 12.2	13.101
2	12 13 23.65	1.8041	3 37 38.9	13.032	2	13 41 5.58	1.8737	6 56 17.7	13.082
3	12 15 11.89	1.8041	3 24 36.9	13.049	3	13 42 58.09	1.8767	7 9 22.1	13.063
4	12 17 0.14	1.8042	3 11 33.8	13.061	4	13 44 50.78	1.8798	7 22 25.3	13.043
5	12 18 48.39	1.8043	2 58 29.6	13.079	5	13 46 43.66	1.8829	7 35 27.3	13.029
6	12 20 36.65	1.8045	2 45 24.4	13.096	6	13 48 36.73	1.8861	7 48 27.9	12.999
7	12 22 24.93	1.8047	2 32 18.1	13.113	7	13 50 29.99	1.8892	8 1 27.2	12.976
8	12 24 13.22	1.8050	2 19 10.8	13.128	8	13 52 23.44	1.8924	8 14 25.1	12.952
9	12 26 1.53	1.8054	2 6 2.7	13.143	9	13 54 17.08	1.8957	8 27 21.5	12.927
10	12 27 49.87	1.8058	1 52 53.7	13.158	10	13 56 10.92	1.8991	8 40 16.3	12.901
11	12 29 38.23	1.8062	1 39 43.8	13.172	11	13 58 4.97	1.9026	8 53 9.6	12.874
12	12 31 26.62	1.8068	1 26 33.1	13.184	12	13 59 59.23	1.9061	9 6 1.2	12.846
13	12 33 15.05	1.8075	1 13 21.7	13.196	13	14 1 53.70	1.9097	9 18 51.1	12.817
14	12 35 3.52	1.8082	1 0 9.6	13.207	14	14 3 48.39	1.9133	9 31 39.3	12.787
15	12 36 52.03	1.8089	0 46 56.8	13.218	15	14 5 43.29	1.9169	9 44 25.6	12.756
16	12 38 40.59	1.8097	0 33 43.4	13.228	16	14 7 38.42	1.9207	9 57 10.0	12.724
17	12 40 29.20	1.8106	0 20 29.4	13.237	17	14 9 33.77	1.9244	10 9 52.5	12.692
18	12 42 17.86	1.8115	N. 0 7 14.9	13.246	18	14 11 29.35	1.9282	10 22 33.0	12.658
19	12 44 6.58	1.8125	S. 0 6 0.1	13.253	19	14 13 25.16	1.9329	10 35 11.4	12.623
20	12 45 55.26	1.8135	0 19 15.5	13.260	20	14 15 21.21	1.9369	10 47 47.7	12.587
21	12 47 44.20	1.8146	0 32 31.3	13.266	21	14 17 17.50	1.9408	11 0 21.8	12.549
22	12 49 33.11	1.8158	0 45 47.4	13.271	22	14 19 14.03	1.9449	11 12 53.6	12.511
23	12 51 22.10	1.8171	S. 0 59 3.8	13.276	23	14 21 10.81	1.9484	S. 11 25 23.1	12.473
WEDNESDAY 22.					FRIDAY 24.				
0	12 53 11.16	1.8184	S. 1 12 20.5	13.280	0	14 23 7.84	1.9528	S. 11 37 50.3	12.439
1	12 55 0.30	1.8198	1 25 37.4	13.289	1	14 25 5.12	1.9568	11 50 15.0	12.391
2	12 56 49.53	1.8212	1 38 54.4	13.294	2	14 27 2.66	1.9611	12 2 37.2	12.348
3	12 58 38.84	1.8226	1 52 11.5	13.298	3	14 29 0.45	1.9654	12 14 56.8	12.305
4	13 0 28.24	1.8242	2 5 28.7	13.298	4	14 30 58.50	1.9698	12 27 13.8	12.261
5	13 2 17.74	1.8257	2 18 45.8	13.295	5	14 32 56.82	1.9742	12 39 28.1	12.215
6	13 4 7.33	1.8273	2 32 2.9	13.284	6	14 34 55.41	1.9787	12 51 39.6	12.168
7	13 5 57.02	1.8291	2 45 19.9	13.269	7	14 36 54.27	1.9833	13 3 48.3	12.121
8	13 7 46.82	1.8310	2 58 36.7	13.279	8	14 38 53.41	1.9879	13 15 54.1	12.073
9	13 9 36.74	1.8329	3 11 53.4	13.276	9	14 40 52.82	1.9925	13 27 56.9	12.021
10	13 11 26.77	1.8348	3 25 9.8	13.271	10	14 42 52.51	1.9972	13 39 56.6	11.970
11	13 13 16.91	1.8367	3 38 25.9	13.266	11	14 44 52.49	2.0020	13 51 53.3	11.918
12	13 15 7.17	1.8388	3 51 41.7	13.260	12	14 46 52.75	2.0068	14 3 46.8	11.865
13	13 16 57.56	1.8409	4 4 57.1	13.253	13	14 48 53.30	2.0116	14 15 37.1	11.811
14	13 18 48.08	1.8430	4 18 12.0	13.245	14	14 50 54.14	2.0165	14 27 24.1	11.755
15	13 20 38.72	1.8452	4 31 26.5	13.237	15	14 52 55.28	2.0214	14 39 7.7	11.698
16	13 22 29.50	1.8475	4 44 40.4	13.227	16	14 54 56.71	2.0264	14 50 47.8	11.640
17	13 24 20.42	1.8498	4 57 53.7	13.216	17	14 56 58.45	2.0315	15 2 24.5	11.582
18	13 26 11.48	1.8522	5 11 6.3	13.204	18	14 59 0.49	2.0366	15 13 57.6	11.523
19	13 28 2.69	1.8547	5 24 18.2	13.192	19	15 1 2.84	2.0417	15 25 27.1	11.460
20	13 29 54.05	1.8573	5 37 29.4	13.180	20	15 3 5.49	2.0468	15 36 52.8	11.397
21	13 31 45.57	1.8599	5 50 39.8	13.166	21	15 5 8.45	2.0519	15 48 14.7	11.333
22	13 33 37.24	1.8625	6 3 49.3	13.151	22	15 7 11.72	2.0572	15 59 32.8	11.268
23	13 35 29.07	1.8653	6 16 57.9	13.136	23	15 9 15.31	2.0625	16 10 46.9	11.202
24	13 37 21.07	1.8681	S. 6 30 5.6	13.119	24	15 11 19.22	2.0678	S. 16 21 57.0	11.135

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	15 11 19.22	2.0678	S. 16° 21' 57.0"	11.135	0	16 57 6.00	2.3407	S. 23° 35' 26.4"	6.450
1	15 13 23.45	2.0732	16 33 3.1	11.067	1	16 59 26.60	2.3460	23 41 49.6	6.382
2	15 15 28.00	2.0785	16 44 5.0	10.997	2	17 1 47.52	2.3513	23 48 5.0	6.193
3	15 17 32.87	2.0839	16 55 2.7	10.996	3	17 4 8.76	2.3566	23 54 12.7	6.063
4	15 19 38.07	2.0893	17 5 56.1	10.853	4	17 6 30.31	2.3619	24 0 12.6	5.932
5	15 21 43.59	2.0947	17 16 45.1	10.780	5	17 8 52.18	2.3671	24 6 4.6	5.800
6	15 23 49.44	2.1003	17 27 29.7	10.706	6	17 11 14.36	2.3722	24 11 48.6	5.667
7	15 25 55.63	2.1059	17 38 9.8	10.630	7	17 13 36.84	2.3772	24 17 24.6	5.533
8	15 28 2.15	2.1114	17 48 45.3	10.552	8	17 15 59.62	2.3822	24 22 52.5	5.398
9	15 30 9.00	2.1170	17 59 16.1	10.474	9	17 18 22.71	2.3873	24 28 12.3	5.262
10	15 32 16.19	2.1227	18 9 42.2	10.395	10	17 20 46.09	2.3921	24 33 23.9	5.123
11	15 34 23.72	2.1283	18 20 3.5	10.315	11	17 23 9.76	2.3969	24 38 27.1	4.984
12	15 36 31.59	2.1340	18 30 20.0	10.233	12	17 25 33.72	2.4017	24 43 22.0	4.845
13	15 38 39.80	2.1397	18 40 31.5	10.150	13	17 27 57.97	2.4064	24 48 8.5	4.705
14	15 40 48.35	2.1454	18 50 38.0	10.065	14	17 30 22.49	2.4109	24 52 46.6	4.564
15	15 42 57.25	2.1511	19 0 39.3	9.979	15	17 32 47.28	2.4154	24 57 16.2	4.422
16	15 45 6.49	2.1569	19 10 35.4	9.892	16	17 35 12.34	2.4199	25 1 37.2	4.278
17	15 47 16.08	2.1627	19 20 26.3	9.804	17	17 37 37.67	2.4243	25 5 49.5	4.133
18	15 49 26.02	2.1685	19 30 11.9	9.715	18	17 40 3.26	2.4287	25 9 53.1	3.988
19	15 51 36.30	2.1743	19 39 52.1	9.624	19	17 42 29.11	2.4329	25 13 48.0	3.842
20	15 53 46.93	2.1801	19 49 26.8	9.532	20	17 44 55.21	2.4370	25 17 34.1	3.694
21	15 55 57.91	2.1859	19 58 55.9	9.438	21	17 47 21.55	2.4410	25 21 11.3	3.546
22	15 58 9.24	2.1917	20 8 19.3	9.343	22	17 49 48.13	2.4450	25 24 39.6	3.397
23	16 0 20.92	2.1976	S. 20° 17' 37.1"	9.248	23	17 52 14.95	2.4489	S. 25° 27' 59.0"	3.248
SUNDAY 26.					TUESDAY 28.				
0	16 2 32.95	2.2034	S. 20° 26' 49.1"	9.151	0	17 54 42.00	2.4537	S. 25° 31' 9.4"	3.097
1	16 4 45.33	2.2093	20 35 55.2	9.059	1	17 57 9.27	2.4584	25 34 10.7	2.946
2	16 6 58.07	2.2151	20 44 55.4	8.953	2	17 59 36.77	2.4631	25 37 2.9	2.794
3	16 9 11.15	2.2209	20 53 49.6	8.859	3	18 2 4.48	2.4636	25 39 46.0	2.642
4	16 11 24.58	2.2268	21 2 37.7	8.750	4	18 4 32.40	2.4670	25 42 19.9	2.488
5	16 13 38.37	2.2327	21 11 19.6	8.647	5	18 7 0.52	2.4702	25 44 44.6	2.334
6	16 15 52.51	2.2386	21 19 55.3	8.543	6	18 9 28.83	2.4734	25 47 0.0	2.179
7	16 18 7.00	2.2444	21 28 24.7	8.437	7	18 11 57.33	2.4766	25 49 6.1	2.023
8	16 20 21.83	2.2502	21 36 47.7	8.329	8	18 14 26.02	2.4797	25 51 2.8	1.867
9	16 22 37.02	2.2561	21 45 4.2	8.221	9	18 16 54.89	2.4828	25 52 50.2	1.711
10	16 24 52.56	2.2618	21 53 14.2	8.113	10	18 19 23.93	2.4854	25 54 28.1	1.553
11	16 27 8.44	2.2676	22 1 17.6	8.001	11	18 21 53.14	2.4882	25 55 56.5	1.395
12	16 29 24.67	2.2734	22 9 14.3	7.888	12	18 24 22.51	2.4907	25 57 15.5	1.237
13	16 31 41.25	2.2792	22 17 4.2	7.775	13	18 26 52.03	2.4932	25 58 24.9	1.077
14	16 33 58.17	2.2849	22 24 47.3	7.661	14	18 29 21.70	2.4956	25 59 24.7	0.917
15	16 36 15.44	2.2907	22 32 23.5	7.545	15	18 31 51.50	2.4979	26 0 15.0	0.757
16	16 38 33.05	2.2963	22 39 52.7	7.428	16	18 34 21.44	2.5001	26 0 55.6	0.597
17	16 40 51.00	2.3019	22 47 14.9	7.310	17	18 36 51.51	2.5021	26 1 26.6	0.437
18	16 43 9.28	2.3075	22 54 29.9	7.190	18	18 39 21.69	2.5040	26 1 48.0	0.276
19	16 45 27.90	2.3131	23 1 37.7	7.070	19	18 41 51.99	2.5058	26 1 59.7	- 0.114
20	16 47 46.86	2.3187	23 8 38.3	6.948	20	18 44 22.39	2.5075	26 2 1.6	+ 0.049
21	16 50 6.15	2.3242	23 15 31.5	6.825	21	18 46 52.89	2.5091	26 1 53.8	0.212
22	16 52 25.77	2.3297	23 22 17.3	6.701	22	18 49 23.48	2.5106	26 1 36.2	0.375
23	16 54 45.72	2.3352	23 28 55.6	6.576	23	18 51 54.16	2.5120	26 1 8.8	0.537
24	16 57 6.00	2.3407	S. 23° 35' 26.4"	6.450	24	18 54 24.92	2.5132	S. 26° 0' 31.7"	0.706

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 29.					FRIDAY, MAY 1.				
0	18 ^h 54 ^m 24.92 ^s	2.5132	S. 26° 0' 31.7"	0.700	0	20 ^h 54 ^m 55.72 ^s	2.4510	S. 22° 20' 45.1"	8.397
1	18 56 55.75	2.5144	25 59 44.8	0.264					
2	18 59 26.65	2.5154	25 58 48.0	1.096					
3	19 1 57.60	2.5163	25 57 41.4	1.199					
4	19 4 28.60	2.5171	25 56 25.0	1.365					
5	19 6 59.65	2.5178	25 54 58.8	1.519					
6	19 9 30.74	2.5184	25 53 22.7	1.683					
7	19 12 1.86	2.5188	25 51 36.8	1.847					
8	19 14 33.00	2.5191	25 49 41.0	2.019					
9	19 17 4.15	2.5193	25 47 35.4	2.176					
10	19 19 35.32	2.5195	25 45 19.9	2.340					
11	19 22 6.49	2.5194	25 42 54.6	2.503					
12	19 24 37.65	2.5193	25 40 19.5	2.667					
13	19 27 8.80	2.5191	25 37 34.5	2.831					
14	19 29 39.94	2.5188	25 34 39.7	2.996					
15	19 32 11.06	2.5184	25 31 35.1	3.159					
16	19 34 42.15	2.5178	25 28 20.6	3.328					
17	19 37 13.20	2.5171	25 24 56.4	3.486					
18	19 39 44.20	2.5163	25 21 22.4	3.648					
19	19 42 15.15	2.5154	25 17 38.6	3.811					
20	19 44 46.05	2.5145	25 13 45.1	3.974					
21	19 47 16.89	2.5134	25 9 41.8	4.136					
22	19 49 47.66	2.5122	25 5 28.8	4.297					
23	19 52 18.36	2.5109	S. 25 1 6.2	4.458					
THURSDAY 30.					PHASES OF THE MOON.				
0	19 54 48.97	2.5094	S. 24 56 33.9	4.619	☾ Last Quarter . . April	d	h	m	
1	19 57 19.49	2.5079	24 51 51.9	4.780	● New Moon	8	8	57.0	
2	19 59 49.92	2.5064	24 47 0.3	4.939	☾ First Quarter	15	13	40.4	
3	20 2 20.26	2.5048	24 41 59.2	5.096	○ Full Moon	23	17	5.2	
4	20 4 50.50	2.5031	24 36 48.5	5.258					
5	20 7 20.63	2.5019	24 31 28.3	5.417					
6	20 9 50.64	2.4999	24 25 58.5	5.575					
7	20 12 20.53	2.4971	24 20 19.3	5.732					
8	20 14 50.29	2.4950	24 14 30.7	5.886	☾ Perigee April	d	h		
9	20 17 19.93	2.4926	24 8 32.7	6.044	☾ Apogee	6	22.2		
10	20 19 49.43	2.4905	24 2 25.4	6.200					
11	20 22 18.79	2.4882	23 56 8.7	6.356					
12	20 24 48.01	2.4857	23 49 42.7	6.510					
13	20 27 17.08	2.4832	23 43 7.5	6.663					
14	20 29 45.99	2.4805	23 36 23.2	6.815					
15	20 32 14.74	2.4778	23 29 29.7	6.967					
16	20 34 43.33	2.4751	23 22 27.1	7.118					
17	20 37 11.75	2.4722	23 15 15.5	7.268					
18	20 39 40.00	2.4693	23 7 54.9	7.418					
19	20 42 8.07	2.4664	23 0 25.3	7.567					
20	20 44 35.97	2.4636	22 52 46.8	7.716					
21	20 47 3.69	2.4604	22 44 59.5	7.868					
22	20 49 31.22	2.4573	22 37 3.4	8.007					
23	20 51 58.56	2.4542	22 28 58.6	8.159					
24	20 54 55.72	2.4510	S. 22 20 45.1	8.397					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Spica W.	69° 26' 47"	2546	71° 6' 56"	2533	72° 47' 23"	2520	74° 28' 9"	2505
	Antares W.	23 39 39	2599	25 18 35	2577	26 58 1	2556	28 37 56	2537
	VENUS E.	57 45 26	2537	56 13 54	2524	54 42 5	2509	53 9 58	2495
	Fomalhaut E.	61 47 26	2751	60 11 54	2745	58 36 14	2741	57 0 28	2737
	SUN E.	99 38 49	2668	98 5 49	2652	96 32 29	2638	94 58 50	2623
2	Spica W.	82 56 53	2436	84 39 37	2422	86 22 40	2408	88 6 3	2394
	Antares W.	37 3 58	2449	38 46 23	2433	40 29 11	2417	42 12 22	2401
	VENUS E.	45 24 59	2698	43 51 7	2614	42 16 57	2600	40 42 29	2588
	Fomalhaut E.	49 0 50	2735	47 24 56	2739	45 49 8	2746	44 13 29	2755
	SUN E.	87 5 48	2749	85 30 13	2734	83 54 18	2719	82 18 4	2704
3	Spica W.	96 47 56	2396	98 33 17	2313	100 18 58	2300	102 4 58	2287
	Antares W.	50 53 48	2396	52 39 10	2311	54 24 53	2297	56 10 57	2283
	VENUS E.	32 46 7	2739	31 10 5	2719	29 33 50	2710	27 57 23	2702
	SUN E.	74 11 56	2631	72 33 43	2616	70 55 10	2602	69 16 18	2588
4	Spica W.	110 59 37	2296	112 47 26	2214	114 35 32	2203	116 23 55	2183
	Antares W.	65 6 19	2217	66 54 21	2204	68 42 42	2189	70 31 21	2180
	SUN E.	60 57 15	2522	59 16 32	2510	57 35 32	2497	55 54 14	2486
5	Antares W.	79 38 48	2129	81 29 3	2120	83 19 32	2111	85 10 14	2103
	α Aquilæ W.	43 37 11	2233	44 45 6	2205	45 55 22	2253	47 7 48	2234
	SUN E.	47 23 56	2435	45 41 11	2426	43 58 13	2417	42 15 3	2411
6	Antares W.	94 26 34	2072	96 18 17	2066	98 10 8	2062	100 2 5	2059
	α Aquilæ W.	53 37 19	2391	54 59 46	2326	56 23 27	2298	57 48 16	2214
	SUN E.	33 37 6	2387	31 53 12	2385	30 9 16	2385	28 25 20	2387
9	SUN W.	9 13 10	2756	10 48 34	2694	12 25 22	2649	14 3 10	2621
	Aldebaran E.	40 11 45	2183	38 22 52	2199	36 34 23	2216	34 46 20	2235
	Pollux E.	84 7 34	2137	82 17 31	2148	80 27 45	2160	78 38 17	2179
10	SUN W.	22 17 27	2604	23 56 16	2613	25 34 53	2634	27 13 15	2636
	Pollux E.	69 35 52	2242	67 48 27	2258	66 1 25	2273	64 14 46	2289
	Regulus E.	105 47 31	2250	104 0 18	2266	102 13 28	2281	100 27 0	2296
11	SUN W.	35 20 37	2710	36 57 4	2727	38 33 8	2744	40 8 49	2763
	Pollux E.	55 27 34	2375	53 43 23	2393	51 59 38	2411	50 16 19	2429
	Regulus E.	91 40 35	2380	89 56 32	2398	88 12 54	2416	86 29 42	2433
12	SUN W.	48 1 18	2854	49 34 36	2873	51 7 29	2893	52 39 57	2912
	MARS W.	15 36 4	2761	17 11 23	2777	18 46 21	2793	20 20 58	2810
	Pollux E.	41 46 20	2524	40 5 40	2543	38 25 27	2563	36 45 41	2583
	Regulus E.	78 0 5	2625	76 19 27	2644	74 39 15	2662	72 59 28	2681
13	SUN W.	60 16 19	3006	61 46 24	3024	63 16 7	3043	64 45 27	3060
	MARS W.	28 8 23	2899	29 40 43	2916	31 12 41	2935	32 44 16	2951
	Aldebaran W.	16 47 29	2896	18 19 53	2878	19 52 40	2867	21 25 41	2861
	Pollux E.	28 33 34	2682	26 56 30	2702	25 19 53	2724	23 43 45	2747
	Regulus E.	64 46 53	2672	63 9 36	2691	61 32 44	2709	59 56 16	2726
	SATURN E.	77 28 7	2645	75 50 13	2663	74 12 43	2680	72 35 36	2698

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Spica W.	76° 9' 15"	9499	77° 50' 40"	9477	79° 32' 25"	9464	81° 14' 29"	9450
	Antares W.	30 18 18	9518	31 59 6	9500	33 40 19	9489	35 21 57	9466
	VENUS E.	51 37 33	9682	50 4 51	9668	48 31 51	9655	46 58 34	9641
	Fomalhaut E.	55 24 37	9734	53 48 42	9739	52 12 45	9732	50 36 47	9732
	SUN E.	93 24 52	9808	91 50 35	9794	90 15 59	9779	88 41 3	9764
2	Spica W.	89 49 46	9380	91 33 49	9366	93 18 12	9353	95 2 54	9339
	Antares W.	43 55 55	9386	45 39 50	9370	47 24 8	9355	49 8 47	9340
	VENUS E.	39 7 45	9775	37 32 45	9763	35 57 28	9750	34 21 55	9739
	Fomalhaut E.	42 38 2	9767	41 2 51	9784	39 28 2	9804	37 53 39	9808
	SUN E.	80 41 30	9689	79 4 36	9675	77 27 23	9660	75 49 49	9646
3	Spica W.	103 51 17	9374	105 37 55	9362	107 24 51	9349	109 12 5	9337
	Antares W.	57 57 22	9369	59 44 7	9356	61 31 11	9343	63 18 35	9329
	VENUS E.	26 20 46	9696	24 44 1	9692	23 7 10	9690	21 30 17	9683
	SUN E.	67 37 7	9574	65 57 36	9561	64 17 47	9548	62 37 40	9535
4	Spica W.	118 12 33	9183	120 1 26	9173	121 50 34	9165	123 39 55	9156
	Antares W.	72 20 18	9169	74 9 32	9159	75 59 2	9148	77 48 48	9139
	SUN E.	54 12 41	9475	52 30 52	9463	50 48 47	9453	49 6 28	9444
5	Antares W.	87 1 9	9096	88 52 15	9088	90 43 32	9082	92 34 59	9077
	α Aquilæ W.	48 22 15	9797	49 38 33	9790	50 56 35	9782	52 16 13	9763
	SUN E.	40 31 44	9405	38 48 16	9398	37 4 39	9394	35 20 55	9380
6	Antares W.	101 54 7	9057	103 46 13	9055	105 38 22	9053	107 30 33	9053
	α Aquilæ W.	59 14 8	9167	60 40 57	9194	62 8 37	9186	63 37 4	9161
	SUN E.	26 41 26	9390	24 57 37	9394	23 13 54	9401	21 30 21	9410
9	SUN W.	15 41 36	9604	17 20 25	9596	18 59 26	9594	20 38 29	9598
	Aldebaran E.	32 58 44	9655	31 11 38	9677	29 25 4	9700	27 39 5	9735
	Pollux E.	76 49 7	9185	75 0 17	9199	73 11 48	9212	71 23 39	9227
10	SUN W.	28 51 21	9649	30 29 9	9663	32 6 39	9678	33 43 48	9693
	Pollux E.	62 28 30	9306	60 42 39	9322	58 57 12	9339	57 12 10	9357
	Regulus E.	98 40 55	9313	96 55 14	9328	95 9 56	9346	93 25 3	9363
11	SUN W.	41 44 6	9780	43 19 0	9798	44 53 30	9817	46 27 36	9835
	Pollux E.	48 33 26	9448	46 51 0	9467	45 9 0	9486	43 27 27	9504
	Regulus E.	84 46 55	9452	83 4 34	9470	81 22 38	9489	79 41 9	9507
12	SUN W.	54 12 1	9631	55 43 41	9650	57 14 57	9668	58 45 50	9687
	MARS W.	21 55 13	9696	23 29 5	9645	25 2 34	9663	26 35 40	9681
	Pollux E.	35 6 22	9609	33 27 30	9621	31 49 4	9641	30 11 5	9662
	Regulus E.	71 20 7	9599	69 41 11	9618	68 2 40	9636	66 24 34	9655
13	SUN W.	66 14 25	9078	67 43 1	9096	69 11 15	9114	70 39 8	9130
	MARS W.	34 15 30	9699	35 46 22	9686	37 16 52	9693	38 47 1	9699
	Aldebaran W.	22 58 50	9658	24 32 3	9659	26 5 15	9662	27 38 23	9666
	Pollux E.	22 8 7	9769	20 32 59	9783	18 58 22	9818	17 24 17	9843
	Regulus E.	58 20 11	9744	56 44 30	9761	55 9 11	9778	53 34 14	9795
	SATURN E.	70 58 53	9714	69 22 32	9731	67 46 33	9747	66 10 56	9764

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Dist.	IIIh.	P. L. of Dist.	VIh.	P. L. of Dist.	IXh.	P. L. of Dist.
14	SUN W.	72° 6' 41"	3147	73° 33' 54"	3164	75° 0' 46"	3180	76° 27' 19"	3198
	Aldebaran W.	29 11 25	2873	30 44 18	2882	32 17 0	2891	33 49 31	2900
	Regulus E.	51 59 40	2811	50 25 27	2808	48 51 36	2845	47 18 6	2861
	SATURN E.	64 35 41	2780	63 0 47	2795	61 26 13	2811	59 51 59	2825
	Spica E.	106 3 5	2811	104 28 51	2806	102 54 57	2841	101 21 22	2855
15	SUN W.	83 35 32	2968	85 0 21	2982	86 24 53	2994	87 49 11	3007
	Aldebaran W.	41 29 5	2948	43 0 23	2958	44 31 28	2968	46 2 21	2977
	Regulus E.	39 35 41	2939	38 4 11	2953	36 32 59	2968	35 2 6	2983
	SATURN E.	52 5 30	2905	50 33 5	2908	49 0 56	2920	47 29 3	2933
	Spica E.	93 37 56	2923	92 6 6	2935	90 34 31	2946	89 3 11	2958
16	SUN W.	94 47 14	3008	96 10 14	3022	97 33 3	3031	98 55 41	3040
	Aldebaran W.	53 33 58	3021	55 3 45	3028	56 33 23	3035	58 2 52	3043
	Regulus E.	27 32 24	3000	26 3 26	3077	24 34 48	3008	23 6 33	3114
	SATURN E.	39 53 20	2988	38 22 52	2997	36 52 36	3008	35 22 33	3017
	Spica E.	81 30 0	3010	80 0 0	3019	78 30 11	3027	77 0 32	3036
17	SUN W.	105 46 36	3425	107 8 24	3431	108 30 6	3436	109 51 42	3441
	Aldebaran W.	65 28 16	3072	66 57 0	3076	68 25 39	3080	69 54 13	3084
	Pollux W.	21 17 7	3087	22 45 32	3089	24 13 55	3090	25 42 17	3091
	Spica E.	69 34 41	3071	68 5 56	3076	66 37 17	3069	65 8 45	3068
	Antares E.	115 28 0	3062	113 59 4	3067	112 30 14	3071	111- 1 29	3074
18	SUN W.	116 38 33	3456	117 59 46	3459	119 20 56	3460	120 42 5	3462
	Aldebaran W.	77 16 0	3097	78 44 13	3099	80 12 24	3100	81 40 34	3101
	Pollux W.	33 3 53	3094	34 32 10	3095	36 0 26	3095	37 28 42	3094
	Spica E.	57 47 23	3105	56 19 19	3108	54 51 19	3110	53 23 21	3112
	Antares E.	103 38 45	3088	102 10 21	3090	100 41 59	3091	99 13 38	3091
19	SUN W.	127 27 41	3459	128 48 51	3458	130 10 2	3456	131 31 15	3454
	Aldebaran W.	89 1 21	3098	90 29 33	3096	91 57 47	3095	93 26 3	3092
	Pollux W.	44 50 17	3088	46 18 41	3086	47 47 8	3084	49 15 37	3081
	Spica E.	46 4 4	3119	44 36 17	3119	43 8 30	3119	41 40 44	3120
	Antares E.	91 51 58	3090	90 23 36	3067	88 55 11	3066	87 26 44	3063
20	Aldebaran W.	100 48 12	3077	102 16 50	3073	103 45 32	3069	105 14 20	3065
	Pollux W.	56 39 2	3063	58 7 57	3059	59 36 57	3054	61 6 3	3048
	Regulus W.	20 49 42	3163	22 16 35	3147	23 43 48	3139	25 11 19	3118
	Spica E.	34 22 4	3194	32 54 23	3125	31 26 44	3127	29 59 7	3129
	Antares E.	80 3 41	3068	78 34 52	3064	77 5 58	3059	75 36 58	3055
21	Pollux W.	68 33 12	3090	70 3 0	3014	71 32 55	3008	73 2 58	3001
	Regulus W.	32 32 41	3069	34 1 37	3052	35 30 45	3043	37 0 5	3033
	SATURN W.	20 2 34	3049	21 31 46	3037	23 1 13	3026	24 30 54	3015
	Antares E.	68 10 30	3029	66 40 53	3022	65 11 8	3016	63 41 15	3010
22	Pollux W.	80 35 25	2965	82 6 22	2958	83 37 28	2949	85 8 45	2942
	Regulus W.	44 29 36	2968	46 0 4	2978	47 30 44	2969	49 1 35	2961
	SATURN W.	32 2 26	2968	33 33 19	2958	35 4 24	2950	36 35 40	2940
	Antares E.	56 9 54	2977	54 39 13	2970	53 8 23	2963	51 37 24	2956
	α Aquilæ E.	103 6 11	2793	101 51 2	2777	100 35 36	2761	99 19 53	2746

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	SUN	W.	77° 53' 33"	3911	79° 19' 29"	3998	80° 45' 7"	3941	82° 10' 26"	3955
	Aldebaran	W.	35 21 50	3909	36 53 57	3919	38 25 52	3998	39 57 35	3939
	Regulus	E.	45 44 57	3976	44 12 8	3993	42 39 40	3908	41 7 31	3993
	SATURN	E.	58 18 4	3940	56 44 28	3955	55 11 11	3969	53 38 12	3989
	Spica	E.	99 48 5	3969	98 15 7	3983	96 42 26	3997	95 10 3	3909
15	SUN	W.	89 13 14	3319	90 37 3	3331	92 0 39	3341	93 24 3	3359
	Aldebaran	W.	47 33 3	3996	49 3 33	3995	50 33 52	3004	52 4 0	3019
	Regulus	E.	33 31 32	3993	32 1 17	3013	30 31 40	3098	29 1 42	3044
	SATURN	E.	45 57 26	3944	44 26 3	3956	42 54 55	3967	41 24 1	3977
	Spica	E.	87 32 6	3969	86 1 15	3980	84 30 37	3990	83 0 12	3001
16	SUN	W.	100 18 9	3398	101 40 28	3406	103 2 38	3412	104 24 41	3419
	Aldebaran	W.	59 32 12	3049	61 1 24	3055	62 30 29	3061	63 59 26	3067
	Regulus	E.	21 38 41	3137	20 11 16	3162	18 44 21	3190	17 18 0	3225
	SATURN	E.	33 52 41	3096	32 23 0	3034	30 53 30	3043	29 24 11	3052
	Spica	E.	75 31 4	3043	74 1 45	3051	72 32 35	3058	71 3 34	3065
17	SUN	W.	111 13 12	3445	112 34 38	3448	113 56 0	3451	115 17 19	3455
	Aldebaran	W.	71 22 42	3087	72 51 7	3091	74 19 28	3094	75 47 45	3096
	Pollux	W.	27 10 38	3091	28 38 58	3092	30 7 17	3093	31 35 35	3093
	Spica	E.	63 40 18	3091	62 11 57	3095	60 43 41	3099	59 15 30	3102
	Antares	E.	109 32 48	3078	108 4 12	3082	106 35 40	3084	105 7 11	3087
18	SUN	W.	122 3 12	3462	123 24 19	3462	124 45 26	3462	126 6 33	3461
	Aldebaran	W.	83 8 43	3101	84 36 52	3101	86 5 1	3100	87 33 11	3100
	Pollux	W.	38 56 59	3094	40 25 16	3092	41 53 35	3091	43 21 55	3090
	Spica	E.	51 55 26	3114	50 27 33	3115	48 59 42	3116	47 31 52	3118
	Antares	E.	97 45 18	3091	96 16 58	3092	94 48 39	3091	93 20 19	3091
19	SUN	W.	132 52 30	3452	134 13 48	3448	135 35 10	3446	136 56 35	3443
	Aldebaran	W.	94 54 22	3090	96 22 44	3087	97 51 9	3084	99 19 38	3080
	Pollux	W.	50 44 10	3078	52 12 46	3074	53 41 27	3071	55 10 12	3067
	Spica	E.	40 12 59	3130	38 45 14	3121	37 17 30	3121	35 49 46	3123
	Antares	E.	85 58 14	3081	84 29 41	3078	83 1 5	3075	81 32 25	3079
20	Aldebaran	W.	106 43 13	3069	108 12 11	3055	109 41 16	3050	111 10 27	3044
	Pollux	W.	62 35 16	3043	64 4 35	3039	65 34 0	3033	67 3 32	3026
	Regulus	W.	26 39 7	3105	28 7 10	3094	29 35 27	3083	31 3 57	3072
	Spica	E.	28 31 33	3133	27 4 4	3138	25 36 41	3146	24 9 27	3156
	Antares	E.	74 7 53	3050	72 38 42	3044	71 9 24	3039	69 40 0	3034
21	Pollux	W.	74 33 10	3094	76 3 30	3087	77 33 59	3080	79 4 37	3072
	Regulus	W.	38 29 37	3094	39 59 20	3015	41 29 14	3006	42 59 19	3097
	SATURN	W.	26 0 48	3005	27 30 54	2995	29 1 13	2985	30 31 44	2977
	Antares	E.	62 11 15	3004	60 41 7	2997	59 10 51	2991	57 40 27	2984
22	Pollux	W.	86 40 11	2934	89 11 47	2925	89 43 34	2917	91 15 31	2909
	Regulus	W.	50 32 37	2959	52 3 50	2942	53 35 15	2934	55 6 51	2924
	SATURN	W.	38 7 8	2931	39 38 47	2923	41 10 37	2913	42 42 39	2905
	Antares	E.	50 6 16	2950	48 35 0	2942	47 3 35	2935	45 32 1	2928
	α Aquilæ	E.	98 3 55	3732	96 47 42	3719	95 31 15	3707	94 14 35	3695

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	Pollux W.	92° 47' 38"	9901	94° 19' 56"	9892	95° 52' 25"	9884	97° 25' 4"	9876
	Regulus W.	56 38 39	9916	58 10 38	9906	59 42 49	9898	61 15 11	9889
	SATURN W.	44 14 52	9896	45 47 16	9887	47 19 52	9878	48 52 39	9869
	Antares E.	44 0 18	9921	42 28 26	9915	40 56 26	9906	39 24 17	9891
	α Aquilæ E.	92 57 43	3685	91 40 40	3675	90 23 26	3667	89 6 4	3659
24	Pollux W.	105 11 4	2833	106 44 49	2824	108 18 46	2815	109 52 54	2807
	Regulus W.	68 59 54	2843	70 33 26	2835	72 7 9	2825	73 41 4	2816
	SATURN W.	56 39 26	2825	58 13 22	2815	59 47 30	2807	61 21 49	2798
	Antares E.	31 41 35	2873	30 8 42	2869	28 35 44	2866	27 2 41	2863
	α Aquilæ E.	82 37 27	3635	81 19 30	3633	80 1 31	3632	78 43 31	3632
	Fomalhaut E.	114 10 18	3030	112 40 43	3017	111 10 51	3004	109 40 43	2991
25	Regulus W.	81 33 36	2771	83 8 42	2763	84 43 59	2753	86 19 28	2744
	SATURN W.	69 16 21	2753	70 51 50	2744	72 27 31	2735	74 3 24	2727
	Spica W.	27 46 13	2848	29 19 38	2831	30 53 25	2815	32 27 33	2801
	α Aquilæ E.	72 14 4	3654	70 56 28	3663	69 39 1	3673	68 21 45	3685
	Fomalhaut E.	102 6 15	2933	100 34 38	2923	99 2 48	2912	97 30 45	2902
26	Regulus W.	94 19 49	2701	95 56 27	2692	97 33 17	2684	99 10 19	2675
	SATURN W.	82 5 42	2683	83 42 45	2675	85 19 59	2666	86 57 25	2657
	Spica W.	40 22 51	2735	41 58 45	2729	43 34 55	2711	45 11 20	2701
	α Aquilæ E.	61 59 27	3780	60 44 4	3807	59 29 9	3837	58 14 45	3871
	Fomalhaut E.	89 47 22	2855	88 14 6	2848	86 40 40	2839	85 7 3	2831
	α Pegasi E.	108 5 8	3137	106 37 43	3120	105 9 58	3105	103 41 55	3090
27	SATURN W.	95 7 29	2614	96 46 5	2606	98 24 52	2597	100 3 51	2588
	Spica W.	53 16 59	2649	54 54 48	2638	56 32 51	2629	58 11 7	2618
	α Aquilæ E.	52 12 39	4106	51 2 43	4168	49 53 47	4239	48 45 58	4318
	Fomalhaut E.	77 16 32	2796	75 41 59	2790	74 7 18	2785	72 32 30	2779
	α Pegasi E.	96 17 24	3097	94 47 45	3017	93 17 53	3006	91 47 48	2997
	SUN E.	141 17 54	2961	139 46 52	2950	138 15 37	2941	136 44 10	2931
28	Spica W.	66 25 45	2579	68 5 19	2562	69 45 6	2553	71 25 6	2543
	Antares W.	20 40 18	2640	22 18 19	2618	23 56 49	2599	25 35 45	2583
	Fomalhaut E.	64 36 55	2760	63 1 34	2756	61 26 9	2755	59 50 42	2754
	α Pegasi E.	84 14 44	2960	82 43 41	2954	81 12 30	2949	79 41 13	2945
	VENUS E.	92 22 39	2957	90 51 32	2947	89 20 13	2937	87 48 41	2927
	SUN E.	129 3 43	2681	127 31 0	2671	125 58 4	2662	124 24 56	2652
29	Spica W.	79 48 17	2498	81 29 33	2489	83 11 1	2480	84 52 42	2471
	Antares W.	33 55 38	2515	35 36 31	2503	37 17 40	2491	38 59 6	2480
	Fomalhaut E.	51 53 33	2764	50 18 18	2760	48 43 10	2777	47 8 12	2786
	α Pegasi E.	72 3 49	2935	70 32 15	2937	69 0 43	2939	67 29 13	2942
	VENUS E.	80 8 0	2880	78 35 15	2869	77 2 17	2860	75 29 7	2851
	SUN E.	116 36 6	2803	115 1 42	2794	113 27 6	2784	111 52 17	2774
30	Spica W.	93 24 15	2427	95 7 11	2419	96 50 19	2410	98 33 40	2401
	Antares W.	47 30 2	2428	49 12 57	2418	50 56 6	2408	52 39 29	2399
	α Pegasi E.	59 53 18	2979	58 22 39	2993	56 52 17	3008	55 22 14	3025
	VENUS E.	67 40 12	2803	66 5 48	2794	64 31 12	2784	62 56 23	2774
	SUN E.	103 55 0	2725	102 18 54	2716	100 42 36	2707	99 6 5	2697

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	Pollux W.	98° 57' 54"	2867	100° 30' 55"	2859	102° 4' 7"	2850	103° 37' 30"	2849
	Regulus W.	62 47 44	2860	64 20 29	2870	65 53 26	2869	67 26 34	2859
	SATURN W.	50 25 37	2860	51 58 47	2859	53 32 8	2849	55 5 41	2833
	Antares E.	37 52 0	2895	36 19 35	2889	34 47 2	2883	33 14 22	2878
	α Aquilæ E.	87 48 33	2859	86 30 55	2847	85 13 11	2841	83 55 21	2837
24	Pollux W.	111 27 13	2798	113 1 43	2789	114 36 25	2781	116 11 18	2772
	Regulus W.	75 15 11	2807	76 49 30	2798	78 24 0	2789	79 58 42	2780
	SATURN W.	62 56 20	2788	64 31 3	2780	66 5 57	2771	67 41 3	2762
	Antares E.	25 29 35	2893	23 56 28	2892	22 23 21	2886	20 50 18	2871
	α Aquilæ E.	77 25 31	2834	76 7 33	2836	74 49 38	2841	73 31 48	2847
	Fomalhaut E.	108 10 19	2879	106 39 40	2867	105 8 46	2856	103 37 38	2844
25	Regulus W.	87 55 9	2735	89 31 2	2727	91 7 6	2718	92 43 22	2710
	SATURN W.	75 39 28	2718	77 15 44	2709	78 52 12	2701	80 28 51	2692
	Spica W.	34 2 0	2786	35 36 46	2779	37 11 51	2759	38 47 13	2747
	α Aquilæ E.	67 4 42	2700	65 47 55	2716	64 31 25	2735	63 15 15	2756
	Fomalhaut E.	95 58 29	2899	94 26 0	2883	92 53 19	2873	91 20 26	2865
26	Regulus W.	100 47 33	2866	102 24 58	2858	104 2 34	2849	105 40 22	2841
	SATURN W.	88 35 2	2849	90 12 51	2840	91 50 52	2831	93 29 5	2823
	Spica W.	46 47 59	2889	48 24 53	2879	50 2 1	2869	51 39 23	2858
	α Aquilæ E.	57 0 56	2909	55 47 45	2949	54 35 15	2996	53 23 31	4048
	Fomalhaut E.	83 33 16	2894	81 59 19	2816	80 25 12	2809	78 50 56	2803
	α Pegasi E.	102 13 33	2076	100 44 54	2063	99 15 59	2051	97 46 49	2039
27	SATURN W.	101 43 2	2580	103 22 25	2579	105 1 59	2563	106 41 45	2554
	Spica W.	59 49 37	2610	61 28 19	2599	63 7 15	2590	64 46 24	2581
	α Aquilæ E.	47 39 22	4405	46 34 5	4503	45 30 15	4611	44 28 0	4733
	Fomalhaut E.	70 57 35	2775	69 22 34	2769	67 47 26	2766	66 12 13	2762
	α Pegasi E.	90 17 32	2989	88 47 5	2980	87 16 27	2973	85 45 40	2965
	SUN E.	135 12 30	2990	133 40 37	2911	132 8 32	2901	130 36 14	2891
28	Spica W.	73 5 19	2534	74 45 45	2525	76 26 23	2516	78 7 14	2507
	Antares W.	27 15 4	2567	28 54 44	2553	30 34 44	2540	32 15 2	2527
	Fomalhaut E.	58 15 14	2754	56 39 46	2755	55 4 19	2756	53 28 54	2760
	α Pegasi E.	78 9 51	2942	76 38 25	2939	75 6 55	2937	73 35 23	2935
	VENUS E.	86 16 57	2918	84 45 1	2909	83 12 53	2899	81 40 33	2889
	SUN E.	122 51 35	2842	121 18 2	2833	119 44 16	2822	118 10 17	2813
29	Spica W?	86 34 36	2462	88 16 42	2453	89 59 1	2445	91 41 32	2436
	Antares W.	40 40 47	2470	42 22 43	2458	44 4 55	2448	45 47 21	2438
	Fomalhaut E.	45 33 26	2796	43 58 55	2811	42 24 41	2826	40 50 50	2849
	α Pegasi E.	65 57 47	2946	64 26 27	2952	62 55 14	2959	61 24 10	2969
	VENUS E.	73 55 45	2841	72 22 10	2831	70 48 23	2822	69 14 24	2812
	SUN E.	110 17 15	2764	108 42 0	2755	107 6 33	2745	105 30 53	2735
30	Spica W.	100 17 13	2393	102 0 58	2384	103 44 55	2376	105 29 4	2368
	Antares W.	54 23 5	2389	56 6 55	2380	57 50 59	2371	59 35 16	2361
	α Pegasi E.	53 52 32	2046	52 23 16	2070	50 54 30	2097	49 26 17	2129
	VENUS E.	61 21 21	2765	59 46 7	2756	58 10 41	2747	56 35 3	2737
	SUN E.	97 29 21	2687	95 52 24	2678	94 15 15	2669	92 37 54	2660

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.				
Frid.	1	^h 2 ^m 33 ^s 31.03	^s 9.541	N.15° 4' 33".4	+45".38	15' 54".28	^s 66.06	^m 2 ^s 58.98	^s 0.315	
Sat.	2	2 37 20.31	9.565	15 22 35.1	44.76	15 54.04	66.14	3 6.24	0.291	
SUN.	3	2 41 10.14	9.588	15 40 21.7	44.12	15 53.80	66.22	3 12.95	0.268	
Mon.	4	2 45 0.54	9.612	15 57 52.9	+43.47	15 53.56	66.30	3 19.09	0.244	
Tues.	5	2 48 51.51	9.635	16 15 8.3	42.81	15 53.33	66.38	3 24.66	0.221	
Wed.	6	2 52 43.06	9.659	16 32 7.6	42.13	15 53.10	66.46	3 29.65	0.197	
Thur.	7	2 56 35.18	9.684	16 48 50.5	+41.44	15 52.88	66.54	3 34.07	0.173	
Frid.	8	3 0 27.88	9.708	17 5 16.7	40.74	15 52.66	66.62	3 37.92	0.149	
Sat.	9	3 4 21.15	9.732	17 21 25.9	40.02	15 52.44	66.70	3 41.20	0.125	
SUN.	10	3 8 14.99	9.756	17 37 17.6	+39.29	15 52.23	66.78	3 43.90	0.101	
Mon.	11	3 12 9.40	9.780	17 52 51.6	38.55	15 52.02	66.86	3 46.04	0.077	
Tues.	12	3 16 4.38	9.803	18 8 7.6	37.79	15 51.81	66.95	3 47.62	0.054	
Wed.	13	3 19 59.93	9.826	18 23 5.4	+37.02	15 51.61	67.03	3 48.63	0.031	
Thur.	14	3 23 56.03	9.849	18 37 44.6	36.24	15 51.41	67.11	3 49.08	0.008	
Frid.	15	3 27 52.68	9.872	18 52 4.8	35.44	15 51.22	67.19	3 48.99	0.015	
Sat.	16	3 31 49.88	9.895	19 6 5.8	+34.64	15 51.03	67.28	3 48.35	0.038	
SUN.	17	3 35 47.63	9.918	19 19 47.3	33.83	15 50.84	67.36	3 47.16	0.061	
Mon.	18	3 39 45.93	9.940	19 33 9.1	33.00	15 50.66	67.44	3 45.42	0.083	
Tues.	19	3 43 44.77	9.963	19 46 10.9	+32.16	15 50.48	67.52	3 43.14	0.106	
Wed.	20	3 47 44.15	9.985	19 58 52.6	31.31	15 50.30	67.60	3 40.32	0.128	
Thur.	21	3 51 44.06	10.007	20 11 13.8	30.45	15 50.12	67.68	3 36.98	0.150	
Frid.	22	3 55 44.50	10.030	20 23 14.3	+29.58	15 49.95	67.75	3 33.11	0.172	
Sat.	23	3 59 45.47	10.052	20 34 53.9	28.70	15 49.77	67.83	3 28.71	0.194	
SUN.	24	4 3 46.96	10.073	20 46 12.4	27.82	15 49.60	67.90	3 23.79	0.216	
Mon.	25	4 7 48.97	10.095	20 57 9.5	+26.92	15 49.43	67.97	3 18.35	0.237	
Tues.	26	4 11 51.48	10.116	21 7 45.1	26.02	15 49.27	68.04	3 12.41	0.258	
Wed.	27	4 15 54.49	10.136	21 17 58.9	25.11	15 49.11	68.11	3 5.97	0.278	
Thur.	28	4 19 58.00	10.156	21 27 50.7	+24.19	15 48.95	68.17	2 59.04	0.298	
Frid.	29	4 24 1.98	10.176	21 37 20.3	23.26	15 48.79	68.23	2 51.63	0.318	
Sat.	30	4 28 6.43	10.195	21 46 27.6	22.33	15 48.64	68.29	2 43.76	0.337	
SUN.	31	4 32 11.33	10.213	21 55 12.3	21.38	15 48.49	68.35	2 35.44	0.355	
Mon.	32	4 36 16.68	10.231	N.22 3 34.2	+20.43	15 48.35	68.41	2 26.67	0.373	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sideral time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]			
Frid.	1	2 33 31.50	9.542	N. 15 4' 35.6	+45.38	^m 2 59.00	^s 0.315	^h 2 36 30.51
Sat.	2	2 37 20.80	9.566	15 22 37.4	44.76	3 6.26	0.291	2 40 27.06
SUN.	3	2 41 10.65	9.589	15 40 24.0	44.12	3 12.96	0.268	2 44 23.61
Mon.	4	2 45 1.07	9.613	15 57 55.2	+43.47	3 19.10	0.244	2 48 20.17
Tues.	5	2 48 52.06	9.636	16 15 10.7	42.81	3 24.67	0.221	2 52 16.73
Wed.	6	2 52 43.62	9.660	16 32 10.1	42.13	3 29.66	0.197	2 56 13.28
Thur.	7	2 56 35.76	9.684	16 48 53.0	+41.44	3 34.08	0.173	3 0 9.84
Frid.	8	3 0 28.47	9.708	17 5 19.2	40.74	3 37.93	0.149	3 4 6.40
Sat.	9	3 4 21.75	9.732	17 21 28.4	40.02	3 41.21	0.125	3 8 2.96
SUN.	10	3 8 15.60	9.756	17 37 20.1	+39.29	3 43.91	0.101	3 11 59.51
Mon.	11	3 12 10.02	9.780	17 52 54.1	38.55	3 46.05	0.077	3 15 56.07
Tues.	12	3 16 5.00	9.803	18 8 10.1	37.79	3 47.62	0.054	3 19 52.62
Wed.	13	3 20 0.55	9.826	18 23 7.8	+37.02	3 48.63	0.031	3 23 49.18
Thur.	14	3 23 56.65	9.849	18 37 46.9	36.24	3 49.08	0.008	3 27 45.73
Frid.	15	3 27 53.30	9.872	18 52 7.0	35.44	3 48.99	0.015	3 31 42.29
Sat.	16	3 31 50.50	9.895	19 6 8.0	+34.64	3 48.35	0.038	3 35 38.85
SUN.	17	3 35 48.25	9.918	19 19 49.5	33.83	3 47.16	0.061	3 39 35.41
Mon.	18	3 39 46.55	9.940	19 33 11.2	33.00	3 45.42	0.083	3 43 31.97
Tues.	19	3 43 45.39	9.963	19 46 13.0	+32.16	3 43.13	0.106	3 47 28.52
Wed.	20	3 47 44.76	9.985	19 58 54.6	31.31	3 40.31	0.128	3 51 25.07
Thur.	21	3 51 44.66	10.007	20 11 15.7	30.45	3 36.97	0.150	3 55 21.63
Frid.	22	3 55 45.09	10.029	20 23 16.1	+29.58	3 33.10	0.172	3 59 18.19
Sat.	23	3 59 46.05	10.051	20 34 55.6	28.70	3 28.70	0.194	4 3 14.75
SUN.	24	4 3 47.53	10.072	20 46 14.0	27.82	3 23.78	0.216	4 7 11.31
Mon.	25	4 7 49.52	10.094	20 57 11.0	+26.92	3 18.34	0.237	4 11 7.86
Tues.	26	4 11 52.02	10.115	21 7 46.5	26.02	3 12.40	0.258	4 15 4.42
Wed.	27	4 15 55.02	10.135	21 18 0.2	25.11	3 5.96	0.278	4 19 0.98
Thur.	28	4 19 58.51	10.155	21 27 51.9	+24.19	2 59.02	0.298	4 22 57.53
Frid.	29	4 24 2.47	10.175	21 37 21.4	23.26	2 51.62	0.318	4 26 54.09
Sat.	30	4 28 6.90	10.194	21 46 28.6	22.33	2 43.75	0.337	4 30 50.65
SUN.	31	4 32 11.78	10.212	21 55 13.2	21.38	2 35.43	0.355	4 34 47.21
Mon.	32	4 36 17.10	10.230	N. 22 3 35.0	+20.43	2 26.66	0.373	4 38 43.76

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.	
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	121	40° 48' 45.8"	48' 46.2"	145.47	— 0.39	0.0034983	+46.2	^h 21 ^m 19 ^s 59.23	
2	122	41 46 56.3	46 56.6	145.41	0.43	0.0036088	45.8	21 16 3.32	
3	123	42 45 5.4	45 5.6	145.34	0.44	0.0037179	45.2	21 12 7.40	
4	124	43 43 13.0	43 13.0	145.28	— 0.42	0.0038256	+44.6	21 8 11.49	
5	125	44 41 19.1	41 18.9	145.22	0.37	0.0039318	43.9	21 4 15.58	
6	126	45 39 23.7	39 23.4	145.16	0.29	0.0040363	43.2	21 0 19.67	
7	127	46 37 26.8	37 26.4	145.10	— 0.19	0.0041391	+42.5	20 56 23.76	
8	128	47 35 28.4	35 27.8	145.03	— 0.07	0.0042401	41.7	20 52 27.85	
9	129	48 33 28.4	33 27.6	144.97	+ 0.06	0.0043391	40.9	20 48 31.94	
10	130	49 31 26.7	31 25.7	144.90	+ 0.20	0.0044362	+40.1	20 44 36.03	
11	131	50 29 23.3	29 22.2	144.83	0.33	0.0045315	39.3	20 40 40.12	
12	132	51 27 18.3	27 17.1	144.76	0.46	0.0046251	38.6	20 36 44.21	
13	133	52 25 11.6	25 10.3	144.69	+ 0.56	0.0047169	+37.9	20 32 48.30	
14	134	53 23 3.1	23 1.6	144.61	0.64	0.0048068	37.2	20 28 52.39	
15	135	54 20 52.8	20 51.1	144.54	0.69	0.0048950	36.5	20 24 56.48	
16	136	55 18 40.8	18 39.0	144.46	+ 0.71	0.0049817	+35.9	20 21 0.57	
17	137	56 16 27.1	16 25.2	144.39	0.71	0.0050671	35.4	20 17 4.66	
18	138	57 14 11.8	14 9.7	144.33	0.68	0.0051513	34.9	20 13 8.75	
19	139	58 11 54.8	11 52.5	144.26	+ 0.62	0.0052344	+34.4	20 9 12.84	
20	140	59 9 36.3	9 33.8	144.20	0.53	0.0053163	33.9	20 5 16.93	
21	141	60 7 16.3	7 13.7	144.14	0.42	0.0053971	33.4	20 1 21.02	
22	142	61 4 54.9	4 52.2	144.08	+ 0.29	0.0054768	+33.0	19 57 25.11	
23	143	62 2 32.2	2 29.3	144.03	0.16	0.0055555	32.6	19 53 29.19	
24	144	63 0 8.3	0 5.2	143.98	+ 0.03	0.0056332	32.2	19 49 33.28	
25	145	63 57 43.2	57 40.0	143.94	— 0.10	0.0057099	+31.7	19 45 37.37	
26	146	64 55 17.1	55 13.7	143.90	0.21	0.0057854	31.2	19 41 41.46	
27	147	65 52 50.0	52 46.4	143.86	0.30	0.0058598	30.7	19 37 45.55	
28	148	66 50 21.9	50 18.1	143.82	— 0.37	0.0059329	+30.2	19 33 49.64	
29	149	67 47 53.0	47 49.0	143.78	0.41	0.0060045	29.5	19 29 53.73	
30	150	68 45 23.3	45 19.1	143.75	0.42	0.0060744	28.8	19 25 57.82	
31	151	69 42 52.9	42 48.5	143.71	0.40	0.0061427	28.0	19 22 1.91	
32	152	70 40 21.7	40 17.2	143.68	— 0.35	0.0062091	+27.2	19 18 6.01	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^d .0.									Diff. for 1 Hour, — 9 ^s .82296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	16' 5.3	16' 9.0	58' 56.1	+1.17	59' 9.6	+1.10	^h 19 ^m 0.8	^m 2.30	^d 22.6
2	16 12.4	16 15.5	59 22.2	1.01	59 33.7	0.89	19 54.8	2.21	23.6
3	16 18.2	16 20.3	59 43.5	0.74	59 51.4	0.58	20 46.7	2.14	24.6
4	16 21.9	16 22.8	59 57.2	+0.39	60 0.5	+0.17	21 37.3	2.10	25.6
5	16 23.0	16 22.3	60 1.1	-0.08	59 58.7	-0.34	22 27.5	2.11	26.6
6	16 20.8	16 18.5	59 53.2	0.59	59 44.6	0.84	23 18.5	2.15	27.6
7	16 15.3	16 11.4	59 33.0	-1.09	59 18.6	-1.32	♄		28.6
8	16 6.8	16 1.5	59 1.5	1.52	58 42.2	1.69	0 10.9	2.22	0.2
9	15 55.8	15 49.6	58 21.1	1.82	57 58.6	1.91	1 5.2	2.29	1.2
10	15 43.3	15 36.8	57 35.2	-1.97	57 11.4	-1.98	2 1.0	2.33	2.2
11	15 30.4	15 24.1	56 47.8	1.94	56 24.7	1.89	2 57.1	2.32	3.2
12	15 18.0	15 12.4	56 2.5	1.80	55 41.7	1.67	3 52.1	2.24	4.2
13	15 7.2	15 2.5	55 22.6	-1.51	55 5.5	-1.34	4 44.8	2.13	5.2
14	14 58.4	14 55.0	54 50.5	1.16	54 37.9	0.96	5 34.4	2.00	6.2
15	14 52.2	14 50.1	54 27.7	0.75	54 20.1	0.53	6 20.8	1.87	7.2
16	14 48.8	14 48.1	54 15.1	-0.32	54 12.6	-0.11	7 4.3	1.77	8.2
17	14 48.2	14 48.9	54 12.8	+0.11	54 15.4	+0.32	7 45.9	1.71	9.2
18	14 50.2	14 52.2	54 20.3	0.51	54 27.5	0.69	8 26.5	1.69	10.2
19	14 54.7	14 57.7	54 36.8	+0.86	54 47.9	+1.00	9 6.9	1.71	11.2
20	15 1.2	15 5.1	55 0.7	1.13	55 14.9	1.24	9 48.4	1.77	12.2
21	15 9.3	15 13.7	55 30.3	1.33	55 46.6	1.39	10 31.9	1.87	13.2
22	15 18.3	15 23.0	56 3.5	+1.42	56 20.8	+1.45	11 18.4	2.02	14.2
23	15 27.7	15 32.4	56 38.1	1.45	56 55.2	1.42	12 8.7	2.18	15.2
24	15 36.9	15 41.3	57 11.9	1.37	57 28.0	1.31	13 3.0	2.33	16.2
25	15 45.5	15 49.4	57 43.3	+1.24	57 57.6	+1.15	14 0.7	2.44	17.2
26	15 53.0	15 56.3	58 10.9	1.07	58 23.1	0.97	15 0.3	2.48	18.2
27	15 59.3	16 2.0	58 34.1	0.87	58 44.0	0.78	15 59.6	2.43	19.2
28	16 4.4	16 6.4	58 52.7	+0.68	59 0.2	+0.58	16 56.8	2.32	20.2
29	16 8.1	16 9.6	59 6.6	0.49	59 11.8	0.39	17 51.2	2.21	21.2
30	16 10.7	16 11.4	59 15.8	0.29	59 18.7	+0.19	18 42.9	2.11	22.2
31	16 11.9	16 12.0	59 20.3	+0.08	59 20.6	-0.04	19 32.5	2.05	23.2
32	16 11.7	16 11.0	59 19.5	-0.16	59 16.9	-0.29	20 21.2	2.04	24.2

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	h m s	s	S. 22 20 45.1	8.997	0	h m s	s	S. 13 17 58.0	13.896
1	20 54 25.72	2.4510	22 12 23.0	8.440	1	22 50 9.31	2.9734	13 4 6.0	13.907
2	20 59 19.44	2.4443	22 3 52.3	8.589	2	22 52 25.62	2.9702	12 50 9.1	13.987
3	21 1 45.99	2.4408	21 55 13.1	8.793	3	22 54 41.74	2.9671	12 36 7.5	14.066
4	21 4 12.34	2.4374	21 46 25.5	8.863	4	22 56 57.67	2.9640	12 22 1.2	14.144
5	21 6 38.48	2.4340	21 37 29.5	9.003	5	22 59 13.42	2.9609	12 7 50.2	14.220
6	21 9 4.42	2.4306	21 28 25.1	9.142	6	23 1 28.98	2.9578	11 53 34.8	14.394
7	21 11 30.15	2.4270	21 19 12.5	9.278	7	23 3 44.36	2.9549	11 39 15.0	14.367
8	21 13 55.06	2.4234	21 9 51.7	9.414	8	23 5 59.57	2.9521	11 24 50.8	14.438
9	21 16 20.95	2.4198	21 0 22.8	9.548	9	23 8 14.61	2.9493	11 10 22.4	14.508
10	21 18 46.03	2.4162	20 50 45.9	9.682	10	23 10 29.48	2.9464	10 55 49.8	14.577
11	21 21 10.89	2.4125	20 41 0.9	9.816	11	23 12 44.18	2.9436	10 41 13.2	14.643
12	21 23 35.53	2.4088	20 31 8.0	9.947	12	23 14 58.71	2.9408	10 26 32.7	14.708
13	21 25 59.95	2.4051	20 21 7.3	10.077	13	23 17 13.08	2.9382	10 11 48.3	14.772
14	21 28 24.14	2.4013	20 10 58.8	10.207	14	23 19 27.30	2.9357	9 57 0.1	14.833
15	21 30 48.11	2.3976	20 0 42.5	10.335	15	23 21 41.37	2.9333	9 42 8.3	14.893
16	21 33 11.86	2.3939	19 50 18.6	10.462	16	23 23 55.29	2.9307	9 27 12.9	14.952
17	21 35 35.38	2.3901	19 39 47.1	10.587	17	23 26 9.06	2.9282	9 12 14.0	15.010
18	21 37 58.67	2.3862	19 29 8.1	10.712	18	23 28 22.68	2.9258	8 57 11.7	15.067
19	21 40 21.73	2.3824	19 18 21.7	10.835	19	23 30 36.16	2.9236	8 42 6.0	15.121
20	21 42 44.56	2.3787	19 7 27.9	10.957	20	23 32 49.51	2.9214	8 26 57.2	15.173
21	21 45 7.17	2.3749	18 56 26.9	11.077	21	23 35 2.73	2.9192	8 11 45.3	15.223
22	21 47 29.55	2.3711	18 45 18.7	11.197	22	23 37 15.82	2.9171	7 56 30.4	15.273
23	21 49 51.70	2.3672	S. 18 34 3.3	11.315	23	23 39 28.78	2.9150	S. 7 41 12.5	15.322
SATURDAY 2.					MONDAY 4.				
0	21 52 13.62	2.3634	S. 18 22 40.9	11.439	0	23 41 41.62	2.9131	S. 7 25 51.8	15.368
1	21 54 35.31	2.3596	18 11 11.5	11.547	1	23 43 54.35	2.9119	7 10 28.4	15.413
2	21 56 56.78	2.3558	17 59 35.2	11.659	2	23 46 6.96	2.9093	6 55 2.3	15.456
3	21 59 18.01	2.3519	17 47 52.1	11.775	3	23 48 19.46	2.9075	6 39 33.7	15.497
4	22 1 39.01	2.3489	17 36 2.2	11.887	4	23 50 31.86	2.9057	6 24 2.7	15.537
5	22 3 59.79	2.3444	17 24 5.7	11.996	5	23 52 44.15	2.9040	6 8 29.3	15.576
6	22 6 20.34	2.3406	17 12 2.7	12.104	6	23 54 56.34	2.9024	5 52 53.6	15.613
7	22 8 40.66	2.3368	16 59 53.2	12.212	7	23 57 8.44	2.9009	5 37 15.8	15.648
8	22 11 0.76	2.3331	16 47 37.2	12.319	8	23 59 20.45	2.1994	5 21 35.9	15.681
9	22 13 20.63	2.3294	16 35 14.9	12.424	9	0 1 32.37	2.1980	5 5 54.1	15.713
10	22 15 40.28	2.3257	16 22 46.3	12.527	10	0 3 44.21	2.1967	4 50 10.4	15.743
11	22 17 59.71	2.3220	16 10 11.6	12.629	11	0 5 55.98	2.1955	4 34 24.9	15.772
12	22 20 18.92	2.3183	15 57 30.8	12.730	12	0 8 7.67	2.1943	4 18 37.7	15.799
13	22 22 37.91	2.3147	15 44 44.0	12.829	13	0 10 19.29	2.1932	4 2 49.0	15.824
14	22 24 56.68	2.3110	15 31 51.3	12.928	14	0 12 30.85	2.1921	3 46 58.8	15.848
15	22 27 15.23	2.3074	15 18 52.7	13.025	15	0 14 42.34	2.1910	3 31 7.2	15.871
16	22 29 33.57	2.3039	15 5 48.3	13.119	16	0 16 53.77	2.1901	3 15 14.3	15.892
17	22 31 51.70	2.3004	14 52 38.4	13.211	17	0 19 5.15	2.1893	2 59 20.2	15.910
18	22 34 9.62	2.2969	14 39 23.0	13.303	18	0 21 16.48	2.1885	2 43 25.1	15.927
19	22 36 27.33	2.2934	14 26 2.1	13.394	19	0 23 27.77	2.1877	2 27 29.0	15.943
20	22 38 44.83	2.2900	14 12 35.7	13.484	20	0 25 39.01	2.1870	2 11 31.9	15.957
21	22 41 2.13	2.2866	13 59 4.0	13.572	21	0 27 50.21	2.1864	1 55 34.1	15.969
22	22 43 19.22	2.2832	13 45 27.1	13.658	22	0 30 1.38	2.1860	1 39 35.6	15.980
23	22 45 36.11	2.2799	13 31 45.1	13.743	23	0 32 12.53	2.1856	1 23 36.5	15.990
24	22 47 52.81	2.2767	S. 13 17 58.0	13.826	24	0 34 23.65	2.1852	S. 1 7 36.8	15.998

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
0	h m s	s	S. ° ' "	"	0	h m s	s	N. ° ' "	"
1	0 34 23.65	2.1852	0 51 36.7	15.998	1	2 20 5.19	2.2414	11 17 38.2	14.497
2	0 36 34.75	2.1848	0 51 36.7	16.003	2	2 22 19.75	2.2439	11 32 1.7	14.355
3	0 38 45.83	2.1846	0 35 36.4	16.007	3	2 24 34.46	2.2463	11 46 20.8	14.281
4	0 40 56.90	2.1844	0 19 35.9	16.009	4	2 26 49.31	2.2489	12 0 35.4	14.205
5	0 43 7.96	2.1843	S. 0 3 35.3	16.011	5	2 29 4.32	2.2515	12 14 45.4	14.128
6	0 45 19.02	2.1842	N. 0 12 25.4	16.011	6	2 31 19.49	2.2541	12 28 50.8	14.051
7	0 47 30.07	2.1842	0 28 26.0	16.008	7	2 33 34.81	2.2567	12 42 51.5	13.973
8	0 49 41.13	2.1844	0 44 26.4	16.004	8	2 35 50.29	2.2593	12 56 47.4	13.890
9	0 51 52.20	2.1846	1 0 26.5	15.998	9	2 38 5.93	2.2620	13 10 38.3	13.806
10	0 54 3.28	2.1848	1 16 26.2	15.991	10	2 40 21.73	2.2647	13 24 24.1	13.721
11	0 56 14.37	2.1851	1 32 25.4	15.982	11	2 42 37.70	2.2675	13 38 4.8	13.636
12	0 58 25.49	2.1855	1 48 24.0	15.971	12	2 44 53.83	2.2703	13 51 40.4	13.549
13	1 0 36.63	2.1859	2 4 21.9	15.958	13	2 47 10.13	2.2731	14 5 10.7	13.460
14	1 2 47.80	2.1864	2 20 19.0	15.945	14	2 49 26.60	2.2759	14 18 35.6	13.369
15	1 4 59.00	2.1870	2 36 15.3	15.930	15	2 51 43.24	2.2787	14 31 55.0	13.277
16	1 7 10.24	2.1876	2 52 10.6	15.912	16	2 54 0.04	2.2815	14 45 8.9	13.185
17	1 9 21.51	2.1883	3 8 4.8	15.893	17	2 56 17.02	2.2844	14 58 17.2	13.091
18	1 11 32.83	2.1891	3 23 57.8	15.879	18	2 58 34.17	2.2873	15 11 19.8	12.994
19	1 13 44.20	2.1899	3 39 49.5	15.850	19	3 0 51.49	2.2902	15 24 16.5	12.896
20	1 15 55.62	2.1908	3 55 39.8	15.827	20	3 3 8.99	2.2931	15 37 7.3	12.797
21	1 18 7.10	2.1917	4 11 28.7	15.809	21	3 5 26.66	2.2960	15 49 52.2	12.698
22	1 20 18.63	2.1928	4 27 16.0	15.774	22	3 7 44.51	2.2989	16 2 31.1	12.597
23	1 22 30.23	2.1939	4 43 1.6	15.746	23	3 10 2.53	2.3018	16 15 3.8	12.493
24	1 24 41.90	2.1950	N. 4 58 45.5	15.716	24	3 12 20.73	2.3047	N. 16 27 30.3	12.389
WEDNESDAY 6.					FRIDAY 8.				
0	1 26 53.63	2.1992	N. 5 14 27.5	15.683	0	3 14 39.10	2.3077	N. 16 39 50.5	12.283
1	1 29 5.44	2.1975	5 30 7.5	15.649	1	3 16 57.65	2.3107	16 52 4.3	12.177
2	1 31 17.33	2.1988	5 45 45.4	15.614	2	3 19 16.38	2.3136	17 4 11.7	12.068
3	1 33 29.29	2.2001	6 1 21.2	15.577	3	3 21 35.28	2.3165	17 16 12.5	11.958
4	1 35 41.34	2.2016	6 16 54.7	15.538	4	3 23 54.36	2.3194	17 28 6.7	11.848
5	1 37 53.48	2.2032	6 32 25.8	15.498	5	3 26 13.61	2.3223	17 39 54.2	11.736
6	1 40 5.72	2.2047	6 47 54.4	15.456	6	3 28 33.04	2.3252	17 51 35.0	11.623
7	1 42 18.05	2.2063	7 3 20.5	15.413	7	3 30 52.64	2.3282	18 3 8.9	11.508
8	1 44 30.48	2.2079	7 18 43.9	15.368	8	3 33 12.42	2.3311	18 14 35.9	11.393
9	1 46 43.00	2.2096	7 34 4.6	15.321	9	3 35 32.37	2.3339	18 25 56.0	11.276
10	1 48 55.63	2.2114	7 49 22.4	15.273	10	3 37 52.49	2.3367	18 37 9.0	11.157
11	1 51 8.37	2.2133	8 4 37.3	15.223	11	3 40 12.78	2.3396	18 48 14.9	11.037
12	1 53 21.23	2.2158	8 19 49.1	15.171	12	3 42 33.24	2.3424	18 59 13.5	10.917
13	1 55 34.20	2.2171	8 34 57.8	15.118	13	3 44 53.87	2.3452	19 10 4.9	10.796
14	1 57 47.28	2.2190	8 50 3.2	15.063	14	3 47 14.67	2.3480	19 20 49.0	10.672
15	2 0 0.48	2.2211	9 5 5.3	15.007	15	3 49 35.63	2.3507	19 31 25.6	10.548
16	2 2 13.81	2.2232	9 20 4.0	14.942	16	3 51 56.76	2.3535	19 41 54.8	10.424
17	2 4 27.26	2.2253	9 34 59.1	14.888	17	3 54 18.05	2.3562	19 52 16.5	10.298
18	2 6 40.84	2.2274	9 49 50.6	14.837	18	3 56 39.50	2.3588	20 2 30.6	10.171
19	2 8 54.55	2.2297	10 4 38.4	14.785	19	3 59 1.11	2.3614	20 12 37.0	10.042
20	2 11 8.40	2.2320	10 19 22.4	14.700	20	4 1 22.87	2.3640	20 22 35.7	9.913
21	2 13 22.39	2.2343	10 34 2.4	14.634	21	4 3 44.79	2.3666	20 32 26.6	9.783
22	2 15 36.51	2.2366	10 48 38.4	14.567	22	4 6 6.87	2.3692	20 42 9.6	9.653
23	2 17 50.78	2.2390	11 3 10.4	14.498	23	4 8 29.09	2.3718	20 51 44.8	9.520
24	2 20 5.19	2.2414	N. 11 17 38.2	14.427	24	4 10 51.46	2.3740	N. 21 1 12.0	9.387

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	h m s. 4 10 51.46	2.3740	N. 21° 1' 12.0	9.387	0	h m s. 6 6 23.62	2.4090	N. 25° 45' 49.2	2.329
1	4 13 13.97	2.3764	21 10 31.2	9.353	1	6 8 48.12	2.4076	25 48 4.4	2.177
2	4 15 36.63	2.3788	21 19 42.3	9.118	2	6 11 12.53	2.4060	25 50 10.5	2.096
3	4 17 59.43	2.3811	21 28 45.3	8.983	3	6 13 36.84	2.4043	25 52 7.5	1.875
4	4 20 22.36	2.3833	21 37 40.2	8.846	4	6 16 1.05	2.4026	25 53 55.5	1.725
5	4 22 45.42	2.3855	21 46 26.8	8.708	5	6 18 25.16	2.4009	25 55 34.5	1.574
6	4 25 8.62	2.3877	21 55 5.1	8.569	6	6 20 49.16	2.3990	25 57 4.4	1.494
7	4 27 31.94	2.3897	22 3 35.1	8.430	7	6 23 13.04	2.3969	25 58 25.4	1.375
8	4 29 55.38	2.3917	22 11 56.7	8.291	8	6 25 36.79	2.3948	25 59 37.4	1.195
9	4 32 18.94	2.3937	22 20 10.0	8.151	9	6 28 0.42	2.3927	26 0 40.4	0.976
10	4 34 42.62	2.3956	22 28 14.8	8.009	10	6 30 23.92	2.3905	26 1 34.5	0.827
11	4 37 6.41	2.3974	22 36 11.1	7.866	11	6 32 47.28	2.3881	26 2 19.7	0.679
12	4 39 30.31	2.3992	22 43 58.8	7.723	12	6 35 10.49	2.3856	26 2 56.0	0.532
13	4 41 54.32	2.4009	22 51 37.9	7.580	13	6 37 33.55	2.3831	26 3 23.5	0.385
14	4 44 18.42	2.4025	22 59 8.4	7.437	14	6 39 56.46	2.3805	26 3 42.2	0.238
15	4 46 42.62	2.4041	23 6 30.3	7.292	15	6 42 19.21	2.3777	26 3 52.0	+ 0.091
16	4 49 6.91	2.4056	23 13 43.5	7.147	16	6 44 41.79	2.3749	26 3 53.1	- 0.054
17	4 51 31.29	2.4070	23 20 47.9	7.001	17	6 47 4.20	2.3721	26 3 45.5	0.300
18	4 53 55.75	2.4083	23 27 43.6	6.855	18	6 49 26.44	2.3692	26 3 29.1	0.345
19	4 56 20.29	2.4096	23 34 30.5	6.708	19	6 51 48.50	2.3661	26 3 4.1	0.468
20	4 58 44.91	2.4109	23 41 8.5	6.560	20	6 54 10.37	2.3629	26 2 30.5	0.632
21	5 1 9.60	2.4120	23 47 37.7	6.413	21	6 56 32.05	2.3597	26 1 48.3	0.775
22	5 3 34.35	2.4130	23 53 58.0	6.263	22	6 58 53.54	2.3564	26 0 57.5	0.918
23	5 5 59.16	2.4140	N. 24 0 9.3	6.114	23	7 1 14.82	2.3530	N. 25 59 58.1	1.061
SUNDAY 10.					TUESDAY 12.				
0	5 8 24.03	2.4149	N. 24 6 11.7	5.965	0	7 3 35.90	2.3496	N. 25 58 50.2	1.302
1	5 10 48.95	2.4157	24 12 5.1	5.816	1	7 5 56.77	2.3461	25 57 33.9	1.342
2	5 13 13.91	2.4164	24 17 49.6	5.667	2	7 8 17.43	2.3425	25 56 9.2	1.482
3	5 15 38.91	2.4170	24 23 25.1	5.516	3	7 10 37.87	2.3388	25 54 36.1	1.621
4	5 18 3.95	2.4176	24 28 51.5	5.365	4	7 12 58.08	2.3350	25 52 54.7	1.759
5	5 20 29.02	2.4180	24 34 8.9	5.215	5	7 15 18.07	2.3312	25 51 5.0	1.896
6	5 22 54.11	2.4183	24 39 17.3	5.064	6	7 17 37.83	2.3273	25 49 7.1	2.033
7	5 25 19.22	2.4186	24 44 16.6	4.912	7	7 19 57.35	2.3233	25 47 1.0	2.170
8	5 27 44.35	2.4188	24 49 6.8	4.761	8	7 22 16.63	2.3193	25 44 46.7	2.306
9	5 30 9.48	2.4189	24 53 47.9	4.609	9	7 24 35.67	2.3153	25 42 24.3	2.440
10	5 32 34.62	2.4189	24 58 19.9	4.457	10	7 26 54.47	2.3113	25 39 53.9	2.574
11	5 34 59.75	2.4188	25 2 42.8	4.305	11	7 29 13.01	2.3069	25 37 15.4	2.708
12	5 37 24.87	2.4186	25 6 56.5	4.153	12	7 31 31.30	2.3026	25 34 28.9	2.841
13	5 39 49.98	2.4183	25 11 1.1	4.001	13	7 33 49.33	2.2983	25 31 34.5	2.972
14	5 42 15.07	2.4179	25 14 56.6	3.849	14	7 36 7.10	2.2940	25 28 32.3	3.102
15	5 44 40.13	2.4174	25 18 43.0	3.697	15	7 38 24.61	2.2897	25 25 22.2	3.232
16	5 47 5.16	2.4168	25 22 20.2	3.544	16	7 40 41.86	2.2852	25 22 4.4	3.362
17	5 49 30.15	2.4162	25 25 48.3	3.392	17	7 42 58.83	2.2806	25 18 38.8	3.491
18	5 51 55.11	2.4156	25 29 7.2	3.239	18	7 45 15.53	2.2760	25 15 5.5	3.618
19	5 54 20.02	2.4147	25 32 17.0	3.087	19	7 47 31.95	2.2714	25 11 24.6	3.744
20	5 56 44.87	2.4137	25 35 17.7	2.935	20	7 49 48.10	2.2668	25 7 36.2	3.870
21	5 59 9.66	2.4126	25 38 9.2	2.783	21	7 52 3.97	2.2621	25 3 40.2	3.995
22	6 1 34.38	2.4115	25 40 51.6	2.631	22	7 54 19.55	2.2573	24 59 36.8	4.119
23	6 3 59.04	2.4103	25 43 24.9	2.480	23	7 56 34.85	2.2526	24 55 26.0	4.242
24	6 6 23.62	2.4090	N. 25 45 49.2	2.329	24	7 58 49.86	2.2478	N. 24 51 7.8	4.364

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	^h 7 ^m 58 ^s 49.86	2.9478	N. 24° 51' 7.8"	4.364	0	^h 9 ^m 40 ^s 52.82	2.0060	N. 19° 18' 20.2"	9.148
1	8 1 4.58	2.9489	24 46 42.3	4.485	1	9 42 53.04	2.0013	19 9 9.0	9.226
2	8 3 19.01	2.9380	24 42 9.6	4.606	2	9 44 52.98	1.9967	18 59 53.2	9.302
3	8 5 33.14	2.9330	24 37 29.6	4.737	3	9 46 52.64	1.9921	18 50 32.8	9.377
4	8 7 46.97	2.9281	24 32 42.4	4.845	4	9 48 52.03	1.9876	18 41 7.9	9.453
5	8 10 0.51	2.9232	24 27 48.2	4.969	5	9 50 51.15	1.9831	18 31 38.5	9.527
6	8 12 13.75	2.9183	24 22 47.0	5.079	6	9 52 50.00	1.9786	18 22 4.6	9.601
7	8 14 26.69	2.9133	24 17 38.8	5.195	7	9 54 48.58	1.9742	18 12 26.4	9.673
8	8 16 39.33	2.9081	24 12 23.6	5.310	8	9 56 46.90	1.9698	18 2 43.9	9.744
9	8 18 51.66	2.9030	24 7 1.6	5.434	9	9 58 44.96	1.9655	17 52 57.1	9.815
10	8 21 3.69	2.1979	24 1 32.8	5.537	10	10 0 42.76	1.9612	17 43 6.1	9.885
11	8 23 15.41	2.1927	23 55 57.2	5.649	11	10 2 40.30	1.9569	17 33 10.9	9.954
12	8 25 26.82	2.1876	23 50 14.9	5.760	12	10 4 37.58	1.9526	17 23 11.6	10.022
13	8 27 37.92	2.1825	23 44 26.0	5.870	13	10 6 34.61	1.9485	17 13 8.2	10.090
14	8 29 48.72	2.1774	23 38 30.5	5.980	14	10 8 31.40	1.9445	17 3 0.8	10.158
15	8 31 59.21	2.1722	23 32 28.4	6.089	15	10 10 27.95	1.9404	16 52 49.3	10.224
16	8 34 9.33	2.1671	23 26 19.8	6.197	16	10 12 24.25	1.9363	16 42 33.9	10.288
17	8 36 19.26	2.1619	23 20 4.8	6.303	17	10 14 20.31	1.9323	16 32 14.7	10.352
18	8 38 28.82	2.1568	23 13 43.5	6.408	18	10 16 16.13	1.9284	16 21 51.6	10.416
19	8 40 38.07	2.1516	23 7 15.9	6.513	19	10 18 11.72	1.9246	16 11 24.7	10.479
20	8 42 47.01	2.1463	23 0 42.0	6.617	20	10 20 7.08	1.9208	16 0 54.1	10.542
21	8 44 55.63	2.1411	22 54 1.9	6.749	21	10 22 2.21	1.9170	15 50 19.7	10.603
22	8 47 3.94	2.1359	22 47 15.7	6.821	22	10 23 57.12	1.9133	15 39 41.7	10.663
23	8 49 11.94	2.1307	N. 22° 40' 23.4"	6.922	23	10 25 51.81	1.9096	N. 15° 29' 0.1"	10.723
THURSDAY 14.					SATURDAY 16.				
0	8 51 19.63	2.1255	N. 22° 33' 25.0"	7.022	0	10 27 46.27	1.9059	N. 15° 18' 14.0"	10.782
1	8 53 27.00	2.1203	22 26 20.7	7.121	1	10 29 40.52	1.9024	15 7 26.2	10.841
2	8 55 34.07	2.1152	22 19 10.5	7.219	2	10 31 34.56	1.8989	14 56 34.0	10.898
3	8 57 40.83	2.1101	22 11 54.4	7.317	3	10 33 28.39	1.8955	14 45 38.4	10.955
4	8 59 47.28	2.1049	22 4 32.5	7.413	4	10 35 22.02	1.8921	14 34 39.4	11.012
5	9 1 53.42	2.0997	21 57 4.8	7.508	5	10 37 15.44	1.8887	14 23 37.0	11.068
6	9 3 59.25	2.0946	21 49 31.5	7.602	6	10 39 8.66	1.8854	14 12 31.3	11.123
7	9 6 4.77	2.0895	21 41 52.6	7.696	7	10 41 1.69	1.8822	14 1 22.3	11.177
8	9 8 9.99	2.0844	21 34 8.0	7.789	8	10 42 54.53	1.8791	13 50 10.1	11.229
9	9 10 14.90	2.0793	21 26 17.9	7.881	9	10 44 47.18	1.8759	13 38 54.8	11.281
10	9 12 19.51	2.0743	21 18 22.3	7.972	10	10 46 39.64	1.8728	13 27 36.4	11.333
11	9 14 23.82	2.0692	21 10 21.3	8.061	11	10 48 31.91	1.8697	13 16 14.9	11.384
12	9 16 27.82	2.0642	21 2 15.0	8.149	12	10 50 24.00	1.8667	13 4 50.3	11.435
13	9 18 31.52	2.0592	20 54 3.4	8.237	13	10 52 15.92	1.8639	12 53 22.7	11.484
14	9 20 34.92	2.0542	20 45 46.5	8.325	14	10 54 7.67	1.8611	12 41 52.2	11.533
15	9 22 38.03	2.0493	20 37 24.4	8.412	15	10 55 59.25	1.8583	12 30 18.7	11.582
16	9 24 40.84	2.0443	20 28 57.1	8.497	16	10 57 50.66	1.8556	12 18 42.3	11.630
17	9 26 43.35	2.0394	20 20 24.8	8.581	17	10 59 41.92	1.8530	12 7 3.1	11.677
18	9 28 45.57	2.0345	20 11 47.4	8.665	18	11 1 33.02	1.8504	11 55 21.1	11.723
19	9 30 47.49	2.0297	20 3 5.0	8.747	19	11 3 23.97	1.8478	11 43 36.4	11.768
20	9 32 49.13	2.0249	19 54 17.7	8.828	20	11 5 14.76	1.8452	11 31 49.0	11.813
21	9 34 50.48	2.0201	19 45 25.6	8.909	21	11 7 5.40	1.8428	11 19 58.8	11.858
22	9 36 51.54	2.0154	19 36 28.6	8.990	22	11 8 55.90	1.8406	11 8 6.0	11.902
23	9 38 52.32	2.0107	19 27 26.8	9.070	23	11 10 46.27	1.8383	10 56 10.6	11.944
24	9 40 52.82	2.0060	N. 19° 18' 20.2"	9.148	24	11 12 36.50	1.8361	N. 10° 44' 12.7"	11.986

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	^h 11 ^m 12 ^s 36.50	1.8361	N. 10° 44' 12.7	11.986	0	^h 12 ^m 39 ^s 22.92	1.8048	N. 0° 32' 42.6	13.940
1	11 14 26.60	1.8339	10 32 12.3	12.028	1	12 41 11.24	1.8059	0 19 27.9	13.950
2	11 16 16.57	1.8318	10 20 9.4	12.069	2	12 42 59.63	1.8070	N. 0 6 12.6	13.959
3	11 18 6.41	1.8297	10 8 4.0	12.110	3	12 44 48.08	1.8081	S. 0 7 3.2	13.967
4	11 19 56.13	1.8277	9 55 56.2	12.149	4	12 46 36.60	1.8093	0 20 19.5	13.975
5	11 21 45.73	1.8258	9 43 46.1	12.187	5	12 48 25.20	1.8105	0 33 36.2	13.982
6	11 23 35.22	1.8239	9 31 33.8	12.224	6	12 50 13.87	1.8118	0 46 53.3	13.988
7	11 25 24.60	1.8222	9 19 19.2	12.262	7	12 52 2.62	1.8132	1 0 10.8	13.994
8	11 27 13.88	1.8204	9 7 2.3	12.300	8	12 53 51.46	1.8147	1 13 28.6	13.998
9	11 29 3.05	1.8187	8 54 43.2	12.337	9	12 55 40.39	1.8162	1 26 46.6	13.303
10	11 30 52.12	1.8171	8 42 21.9	12.372	10	12 57 29.41	1.8179	1 40 4.8	13.305
11	11 32 41.10	1.8156	8 29 58.5	12.406	11	12 59 18.54	1.8196	1 53 23.2	13.307
12	11 34 30.00	1.8142	8 17 33.1	12.440	12	13 1 7.77	1.8213	2 6 41.7	13.309
13	11 36 18.81	1.8127	8 5 5.7	12.474	13	13 2 57.10	1.8232	2 20 0.3	13.310
14	11 38 7.53	1.8113	7 52 36.2	12.508	14	13 4 46.55	1.8251	2 33 18.9	13.310
15	11 39 56.17	1.8101	7 40 4.7	12.541	15	13 6 36.11	1.8270	2 46 37.5	13.309
16	11 41 44.74	1.8089	7 27 31.3	12.572	16	13 8 25.79	1.8290	2 59 56.0	13.308
17	11 43 33.24	1.8077	7 14 56.1	12.603	17	13 10 15.59	1.8311	3 13 14.4	13.306
18	11 45 21.66	1.8065	7 2 19.0	12.633	18	13 12 5.52	1.8332	3 26 32.7	13.303
19	11 47 10.02	1.8056	6 49 40.1	12.663	19	13 13 55.58	1.8355	3 39 50.8	13.299
20	11 48 58.33	1.8047	6 36 59.4	12.693	20	13 15 45.78	1.8378	3 53 8.6	13.294
21	11 50 46.58	1.8038	6 24 17.0	12.721	21	13 17 36.11	1.8401	4 6 26.1	13.288
22	11 52 34.78	1.8029	6 11 32.9	12.748	22	13 19 26.59	1.8426	4 19 43.2	13.282
23	11 54 22.93	1.8021	N. 5 58 47.2	12.776	23	13 21 17.22	1.8451	S. 4 33 0.0	13.276
MONDAY 18.					WEDNESDAY 20.				
0	11 56 11.03	1.8013	N. 5 45 59.8	12.803	0	13 23 8.00	1.8476	S. 4 46 16.3	13.268
1	11 57 59.09	1.8007	5 33 10.8	12.828	1	13 24 58.93	1.8502	4 59 32.1	13.259
2	11 59 47.12	1.8002	5 20 20.4	12.853	2	13 26 50.03	1.8530	5 12 47.4	13.249
3	12 1 35.12	1.7997	5 7 28.5	12.878	3	13 28 41.29	1.8558	5 26 2.0	13.238
4	12 3 23.09	1.7993	4 54 35.1	12.902	4	13 30 32.72	1.8586	5 39 16.0	13.227
5	12 5 11.04	1.7990	4 41 40.3	12.925	5	13 32 24.32	1.8615	5 52 29.3	13.215
6	12 6 58.97	1.7987	4 28 44.1	12.948	6	13 34 16.10	1.8645	6 5 41.8	13.202
7	12 8 46.88	1.7984	4 15 46.5	12.970	7	13 36 8.06	1.8676	6 18 53.5	13.188
8	12 10 34.78	1.7983	4 2 47.7	12.991	8	13 38 0.21	1.8707	6 32 4.3	13.173
9	12 12 22.68	1.7982	3 49 47.6	13.012	9	13 39 52.54	1.8738	6 45 14.3	13.158
10	12 14 10.57	1.7982	3 36 46.3	13.032	10	13 41 45.06	1.8770	6 58 23.3	13.141
11	12 15 58.46	1.7982	3 23 43.8	13.051	11	13 43 37.78	1.8804	7 11 31.2	13.124
12	12 17 46.35	1.7983	3 10 40.2	13.069	12	13 45 30.71	1.8838	7 24 38.1	13.106
13	12 19 34.25	1.7985	2 57 35.5	13.087	13	13 47 23.84	1.8872	7 37 43.9	13.086
14	12 21 22.17	1.7987	2 44 29.7	13.105	14	13 49 17.18	1.8907	7 50 48.4	13.065
15	12 23 10.10	1.7990	2 31 22.9	13.122	15	13 51 10.73	1.8942	8 3 51.7	13.044
16	12 24 58.05	1.7994	2 18 15.1	13.137	16	13 53 4.49	1.8979	8 16 53.7	13.022
17	12 26 46.03	1.7999	2 5 6.4	13.152	17	13 54 58.48	1.9017	8 29 54.3	12.999
18	12 28 34.04	1.8004	1 51 56.8	13.167	18	13 56 52.69	1.9054	8 42 53.5	12.975
19	12 30 22.08	1.8010	1 38 46.3	13.181	19	13 58 47.13	1.9092	8 55 51.3	12.950
20	12 32 10.16	1.8017	1 25 35.0	13.194	20	14 0 41.80	1.9132	9 8 47.5	12.923
21	12 33 58.28	1.8024	1 12 23.0	13.207	21	14 2 36.71	1.9172	9 21 42.1	12.896
22	12 35 46.45	1.8031	0 59 10.2	13.219	22	14 4 31.86	1.9212	9 34 35.0	12.868
23	12 37 34.66	1.8039	0 45 56.7	13.230	23	14 6 27.25	1.9252	9 47 26.2	12.839
24	12 39 22.92	1.8048	N. 0 32 42.6	13.240	24	14 8 22.89	1.9294	S. 10 0 15.7	12.810

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	^h 14 ^m 8 ^s 22.89	1.9994	S. 10° 0' 15.7"	12.810	0	^h 15 ^m 46 ^s 51.60	2.1914	S. 19° 18' 56.0"	9.996
1	14 10 18.78	1.9337	10 13 3.4	12.778	1	15 49 3.27	2.1978	19 28 53.1	9.906
2	14 12 14.93	1.9380	10 25 49.1	12.745	2	15 51 15.33	2.2042	19 38 44.7	9.813
3	14 14 11.34	1.9423	10 38 32.8	12.712	3	15 53 27.77	2.2105	19 48 30.7	9.720
4	14 16 8.01	1.9467	10 51 14.5	12.678	4	15 55 40.59	2.2169	19 58 11.1	9.626
5	14 18 4.95	1.9512	11 3 54.2	12.643	5	15 57 53.80	2.2233	20 7 45.8	9.530
6	14 20 2.15	1.9557	11 16 31.7	12.607	6	16 0 7.39	2.2297	20 17 14.7	9.433
7	14 21 59.63	1.9603	11 29 7.0	12.569	7	16 2 21.36	2.2361	20 26 37.8	9.335
8	14 23 57.39	1.9650	11 41 40.0	12.530	8	16 4 35.72	2.2425	20 35 54.9	9.234
9	14 25 55.43	1.9698	11 54 10.6	12.490	9	16 6 50.46	2.2488	20 45 5.9	9.133
10	14 27 53.76	1.9746	12 6 38.8	12.450	10	16 9 5.58	2.2552	20 54 10.8	9.031
11	14 29 52.38	1.9794	12 19 4.6	12.408	11	16 11 21.09	2.2617	21 3 9.6	8.927
12	14 31 51.28	1.9842	12 31 27.8	12.365	12	16 13 36.98	2.2680	21 12 2.1	8.822
13	14 33 50.48	1.9892	12 43 48.4	12.321	13	16 15 53.25	2.2743	21 20 48.2	8.714
14	14 35 49.98	1.9942	12 56 6.3	12.276	14	16 18 9.90	2.2807	21 29 27.8	8.606
15	14 37 49.78	1.9993	13 8 21.5	12.229	15	16 20 26.94	2.2871	21 38 0.9	8.497
16	14 39 49.89	2.0044	13 20 33.8	12.181	16	16 22 44.36	2.2934	21 46 27.4	8.385
17	14 41 50.31	2.0095	13 32 43.2	12.132	17	16 25 2.15	2.2997	21 54 47.1	8.272
18	14 43 51.03	2.0147	13 44 49.7	12.082	18	16 27 20.32	2.3060	22 3 0.0	8.158
19	14 45 52.07	2.0200	13 56 53.1	12.031	19	16 29 38.87	2.3122	22 11 6.1	8.043
20	14 47 53.43	2.0253	14 8 53.4	11.979	20	16 31 57.79	2.3185	22 19 5.2	7.926
21	14 49 55.11	2.0307	14 20 50.6	11.926	21	16 34 17.09	2.3247	22 26 57.2	7.808
22	14 51 57.12	2.0362	14 32 44.5	11.871	22	16 36 35.76	2.3309	22 34 42.1	7.689
23	14 53 59.45	2.0416	S. 14° 44' 35.1"	11.814	23	16 38 56.80	2.3370	S. 22° 42' 19.9"	7.569
FRIDAY 22.					SUNDAY 24.				
0	14 56 2.11	2.0472	S. 14° 56' 22.2"	11.757	0	16 41 17.20	2.3431	S. 22° 49' 50.4"	7.447
1	14 58 5.11	2.0527	15 8 5.9	11.699	1	16 43 37.97	2.3492	22 57 13.5	7.323
2	15 0 8.44	2.0583	15 19 46.1	11.639	2	16 45 59.10	2.3552	23 4 29.2	7.198
3	15 2 12.11	2.0640	15 31 22.6	11.578	3	16 48 20.60	2.3612	23 11 37.3	7.072
4	15 4 16.12	2.0697	15 42 55.4	11.516	4	16 50 42.45	2.3671	23 18 37.8	6.945
5	15 6 20.48	2.0755	15 54 24.5	11.453	5	16 53 4.65	2.3730	23 25 30.7	6.817
6	15 8 25.18	2.0813	16 5 49.7	11.388	6	16 55 27.21	2.3789	23 32 15.8	6.686
7	15 10 30.23	2.0871	16 17 11.0	11.322	7	16 57 50.12	2.3847	23 38 53.0	6.555
8	15 12 35.63	2.0930	16 28 28.3	11.254	8	17 0 13.37	2.3904	23 45 22.4	6.423
9	15 14 41.39	2.0990	16 39 41.5	11.186	9	17 2 36.96	2.3960	23 51 43.8	6.289
10	15 16 47.51	2.1049	16 50 50.6	11.116	10	17 5 0.89	2.4017	23 57 57.1	6.154
11	15 18 53.98	2.1108	17 1 55.4	11.044	11	17 7 25.16	2.4073	24 4 2.3	6.018
12	15 21 0.81	2.1168	17 12 55.9	10.972	12	17 9 49.76	2.4127	24 9 59.3	5.881
13	15 23 8.00	2.1229	17 23 52.0	10.898	13	17 12 14.68	2.4180	24 15 48.0	5.742
14	15 25 15.56	2.1291	17 34 43.6	10.823	14	17 14 39.92	2.4234	24 21 28.3	5.602
15	15 27 23.49	2.1352	17 45 30.7	10.747	15	17 17 5.49	2.4287	24 27 0.2	5.461
16	15 29 31.78	2.1414	17 56 13.2	10.668	16	17 19 31.37	2.4338	24 32 23.6	5.319
17	15 31 40.45	2.1476	18 6 50.9	10.588	17	17 21 57.55	2.4389	24 37 38.5	5.176
18	15 33 49.49	2.1538	18 17 23.8	10.508	18	17 24 24.04	2.4440	24 42 41.7	5.031
19	15 35 58.90	2.1600	18 27 51.9	10.427	19	17 26 50.83	2.4489	24 47 42.2	4.886
20	15 38 8.69	2.1662	18 38 15.0	10.343	20	17 29 17.91	2.4537	24 52 31.0	4.739
21	15 40 18.85	2.1725	18 48 33.0	10.258	21	17 31 45.28	2.4585	24 57 10.9	4.591
22	15 42 29.39	2.1788	18 58 45.9	10.172	22	17 34 12.93	2.4632	25 1 41.9	4.442
23	15 44 40.31	2.1851	19 8 53.6	10.084	23	17 36 40.87	2.4679	25 6 4.0	4.292
24	15 46 51.60	2.1914	S. 19° 18' 56.0"	9.996	24	17 39 9.08	2.4723	S. 25° 10' 17.0"	4.141

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	^h 17 ^m 39 ^s 9.08	2.4723	S. 25° 10' 17.0"	4.141	0	^h 19 ^m 40 ^s 46.37	2.5460	S. 25° 22' 36.3"	3.748
1	17 41 37.55	2.4767	25 14 20.9	3.990	1	19 43 19.08	2.5444	25 18 46.4	3.914
2	17 44 6.28	2.4810	25 18 15.8	3.838	2	19 45 51.69	2.5427	25 14 46.6	4.079
3	17 46 35.27	2.4852	25 22 1.5	3.684	3	19 48 24.20	2.5408	25 10 36.9	4.243
4	17 49 4.51	2.4893	25 25 37.9	3.529	4	19 50 56.59	2.5388	25 6 17.4	4.408
5	17 51 33.99	2.4933	25 29 5.0	3.374	5	19 53 28.86	2.5367	25 1 48.0	4.572
6	17 54 3.70	2.4971	25 32 22.8	3.218	6	19 56 1.00	2.5345	24 57 8.8	4.735
7	17 56 33.64	2.5008	25 35 31.2	3.061	7	19 58 33.00	2.5323	24 52 19.8	4.897
8	17 59 3.80	2.5045	25 38 30.1	2.903	8	20 1 4.86	2.5298	24 47 21.1	5.058
9	18 1 34.18	2.5081	25 41 19.5	2.744	9	20 3 36.58	2.5274	24 42 12.8	5.219
10	18 4 4.77	2.5115	25 43 59.4	2.584	10	20 6 8.15	2.5247	24 36 54.8	5.380
11	18 6 35.56	2.5147	25 46 29.6	2.423	11	20 8 39.55	2.5219	24 31 27.2	5.539
12	18 9 6.54	2.5179	25 48 50.2	2.263	12	20 11 10.78	2.5191	24 25 50.1	5.698
13	18 11 37.71	2.5210	25 51 1.2	2.102	13	20 13 41.84	2.5162	24 20 3.5	5.856
14	18 14 9.06	2.5239	25 53 2.4	1.939	14	20 16 12.73	2.5132	24 14 7.4	6.014
15	18 16 40.58	2.5267	25 54 53.9	1.776	15	20 18 43.43	2.5101	24 8 1.8	6.171
16	18 19 12.26	2.5294	25 56 35.6	1.612	16	20 21 13.94	2.5069	24 1 46.9	6.326
17	18 21 44.11	2.5321	25 58 7.4	1.448	17	20 23 44.26	2.5037	23 55 22.7	6.481
18	18 24 16.11	2.5345	25 59 29.4	1.284	18	20 26 14.39	2.5004	23 48 49.2	6.635
19	18 26 48.25	2.5367	26 0 41.5	1.119	19	20 28 44.31	2.4969	23 42 6.5	6.787
20	18 29 20.52	2.5389	26 1 43.7	0.953	20	20 31 14.02	2.4933	23 35 14.7	6.939
21	18 31 52.02	2.5410	26 2 35.9	0.787	21	20 33 43.51	2.4897	23 28 13.8	7.090
22	18 34 25.44	2.5428	26 3 18.1	0.621	22	20 36 12.79	2.4861	23 21 3.9	7.241
23	18 36 58.06	2.5446	S. 26° 3' 50.4"	0.455	23	20 38 41.84	2.4824	S. 23° 13' 44.9"	7.391
TUESDAY 26.					THURSDAY 28.				
0	18 39 30.79	2.5463	S. 26° 4' 12.7"	0.288	0	20 41 10.67	2.4786	S. 23° 6' 17.0"	7.538
1	18 42 3.62	2.5478	26 4 24.9	- 0.120	1	20 43 39.27	2.4747	22 58 40.3	7.695
2	18 44 36.53	2.5492	26 4 27.1	+ 0.048	2	20 46 7.63	2.4707	22 50 54.8	7.852
3	18 47 9.52	2.5504	26 4 19.2	0.216	3	20 48 35.75	2.4667	22 43 0.5	7.977
4	18 49 42.58	2.5516	26 4 1.2	0.384	4	20 51 3.63	2.4626	22 34 57.6	8.120
5	18 52 15.71	2.5526	26 3 33.1	0.553	5	20 53 31.26	2.4585	22 26 46.1	8.263
6	18 54 48.89	2.5534	26 2 54.8	0.722	6	20 55 58.65	2.4544	22 18 26.2	8.403
7	18 57 22.11	2.5541	26 2 6.4	0.891	7	20 58 25.79	2.4502	22 9 57.8	8.543
8	18 59 55.38	2.5547	26 1 7.9	1.059	8	21 0 52.67	2.4459	22 1 21.0	8.683
9	19 2 28.68	2.5552	25 59 50.3	1.228	9	21 3 19.29	2.4415	21 52 35.8	8.822
10	19 5 2.00	2.5554	25 58 40.5	1.397	10	21 5 45.65	2.4372	21 43 42.4	8.958
11	19 7 35.33	2.5556	25 57 11.6	1.566	11	21 8 11.75	2.4328	21 34 40.8	9.094
12	19 10 8.67	2.5556	25 55 32.6	1.735	12	21 10 37.59	2.4284	21 25 31.1	9.228
13	19 12 42.00	2.5555	25 53 43.4	1.904	13	21 13 3.16	2.4239	21 16 13.4	9.362
14	19 15 15.33	2.5553	25 51 44.1	2.072	14	21 15 28.46	2.4194	21 6 47.7	9.493
15	19 17 48.64	2.5550	25 49 34.7	2.241	15	21 17 53.49	2.4148	20 57 14.2	9.623
16	19 20 21.93	2.5545	25 47 15.2	2.410	16	21 20 18.24	2.4102	20 47 32.9	9.753
17	19 22 55.18	2.5538	25 44 45.5	2.579	17	21 22 42.72	2.4057	20 37 43.8	9.882
18	19 25 28.39	2.5531	25 42 5.7	2.747	18	21 25 6.93	2.4012	20 27 47.1	10.008
19	19 28 1.55	2.5522	25 39 15.9	2.914	19	21 27 30.86	2.3965	20 17 42.8	10.134
20	19 30 34.66	2.5512	25 36 16.0	3.082	20	21 29 54.51	2.3918	20 7 31.0	10.257
21	19 33 7.70	2.5501	25 33 6.1	3.249	21	21 32 17.88	2.3872	19 57 11.9	10.379
22	19 35 40.67	2.5488	25 29 46.1	3.416	22	21 34 40.97	2.3826	19 46 45.5	10.501
23	19 38 13.56	2.5475	25 26 16.2	3.582	23	21 37 3.79	2.3780	19 36 11.8	10.623
24	19 40 46.37	2.5460	S. 25° 22' 36.3"	3.748	24	21 39 26.33	2.3733	S. 19° 25' 30.8"	10.742

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.																														
FRIDAY 29.					SUNDAY 31.																																		
0	21 ^h 39 ^m 26.33 ^s	2.3733	S. 19° 25' 30.8"	10.742	0	23 ^h 28 ^m 19.95 ^s	2.1794	S. 9° 0' 1.6"	14.766																														
1	21 41 48.59	2.3686	19 14 42.8	10.858	1	23 30 30.63	2.1767	8 45 14.2	14.814																														
2	21 44 10.56	2.3639	19 3 47.8	10.974	2	23 32 41.15	2.1740	8 30 23.9	14.861																														
3	21 46 32.25	2.3592	18 52 45.9	11.089	3	23 34 51.51	2.1713	8 15 30.9	14.906																														
4	21 48 53.66	2.3545	18 41 37.1	11.202	4	23 37 1.71	2.1687	8 0 35.2	14.950																														
5	21 51 14.79	2.3498	18 30 21.6	11.314	5	23 39 11.76	2.1662	7 45 36.9	14.992																														
6	21 53 35.64	2.3452	18 18 59.4	11.425	6	23 41 21.66	2.1638	7 30 36.1	15.033																														
7	21 55 56.21	2.3405	18 7 30.6	11.534	7	23 43 31.42	2.1615	7 15 32.9	15.073																														
8	21 58 16.50	2.3358	17 55 55.3	11.642	8	23 45 41.04	2.1592	7 0 27.3	15.119																														
9	22 0 36.51	2.3312	17 44 13.6	11.748	9	23 47 50.52	2.1569	6 45 19.5	15.148																														
10	22 2 56.24	2.3266	17 32 25.6	11.853	10	23 49 59.87	2.1548	6 30 9.5	15.184																														
11	22 5 15.70	2.3220	17 20 31.3	11.956	11	23 52 9.10	2.1527	6 14 57.4	15.217																														
12	22 7 34.88	2.3174	17 8 30.9	12.058	12	23 54 18.20	2.1507	5 59 43.4	15.249																														
13	22 9 53.79	2.3128	16 56 24.4	12.159	13	23 56 27.18	2.1488	5 44 27.5	15.281																														
14	22 12 12.42	2.3082	16 44 11.8	12.258	14	23 58 36.05	2.1470	5 29 9.7	15.311																														
15	22 14 30.78	2.3037	16 31 53.4	12.355	15	0 0 44.82	2.1452	5 13 50.2	15.339																														
16	22 16 48.87	2.2993	16 19 29.2	12.452	16	0 2 53.48	2.1435	4 58 29.0	15.366																														
17	22 19 6.70	2.2949	16 6 59.2	12.547	17	0 5 2.04	2.1418	4 43 6.3	15.390																														
18	22 21 24.26	2.2905	15 54 23.6	12.640	18	0 7 10.50	2.1402	4 27 42.2	15.414																														
19	22 23 41.56	2.2861	15 41 42.4	12.732	19	0 9 18.87	2.1386	4 12 16.7	15.437																														
20	22 25 58.59	2.2817	15 28 55.7	12.822	20	0 11 27.16	2.1375	3 56 49.8	15.458																														
21	22 28 15.36	2.2774	15 16 3.7	12.911	21	0 13 35.37	2.1361	3 41 21.7	15.478																														
22	22 30 31.87	2.2731	15 3 6.4	12.998	22	0 15 43.50	2.1348	3 25 52.5	15.496																														
23	22 32 48.13	2.2688	S. 14° 50' 3.9"	13.085	23	0 17 51.55	2.1336	S. 3° 10' 22.2"	15.512																														
SATURDAY 30.					MONDAY, JUNE 1.																																		
0	22 35 4.13	2.2646	S. 14° 36' 56.2"	13.170	0	0 19 59.53	2.1325	S. 2° 54' 51.0"	15.527																														
1	22 37 19.88	2.2605	14 23 43.5	13.253	PHASES OF THE MOON.																																		
2	22 39 35.39	2.2564	14 10 25.8	13.335																																			
3	22 41 50.65	2.2523	13 57 3.3	13.415																																			
4	22 44 5.67	2.2483	13 43 36.0	13.494																																			
5	22 46 20.45	2.2443	13 30 4.0	13.572	<table><tr><td></td><td></td><td>d</td><td>h</td><td>m</td></tr><tr><td>☾ Last Quarter . . . May</td><td></td><td>1</td><td>1</td><td>51.1</td></tr><tr><td>● New Moon</td><td></td><td>7</td><td>18</td><td>15.5</td></tr><tr><td>☽ First Quarter</td><td></td><td>15</td><td>7</td><td>4.4</td></tr><tr><td>○ Full Moon</td><td></td><td>23</td><td>6</td><td>25.9</td></tr><tr><td>☾ Last Quarter</td><td></td><td>30</td><td>6</td><td>54.4</td></tr></table>							d	h	m	☾ Last Quarter . . . May		1	1	51.1	● New Moon		7	18	15.5	☽ First Quarter		15	7	4.4	○ Full Moon		23	6	25.9	☾ Last Quarter		30	6	54.4
		d	h	m																																			
☾ Last Quarter . . . May		1	1	51.1																																			
● New Moon		7	18	15.5																																			
☽ First Quarter		15	7	4.4																																			
○ Full Moon		23	6	25.9																																			
☾ Last Quarter		30	6	54.4																																			
6	22 48 34.99	2.2404	13 16 27.4	13.648	<table><tr><td></td><td></td><td>d</td><td>h</td></tr><tr><td>☾ Perigee May</td><td></td><td>4</td><td>20.6</td></tr><tr><td>☾ Apogee</td><td></td><td>16</td><td>16.9</td></tr><tr><td>☾ Perigee</td><td></td><td>31</td><td>9.1</td></tr></table>							d	h	☾ Perigee May		4	20.6	☾ Apogee		16	16.9	☾ Perigee		31	9.1														
		d	h																																				
☾ Perigee May		4	20.6																																				
☾ Apogee		16	16.9																																				
☾ Perigee		31	9.1																																				
7	22 50 49.30	2.2366	13 2 46.3	13.722																																			
8	22 53 3.38	2.2327	12 49 0.8	13.795																																			
9	22 55 17.22	2.2289	12 35 10.9	13.867																																			
10	22 57 30.84	2.2252	12 21 16.8	13.937																																			
11	22 59 44.24	2.2216	12 7 18.5	14.006																																			
12	23 1 57.43	2.2180	11 53 16.1	14.073																																			
13	23 4 10.40	2.2144	11 39 9.7	14.139																																			
14	23 6 23.16	2.2109	11 24 59.4	14.202																																			
15	23 8 35.71	2.2075	11 10 45.4	14.264																																			
16	23 10 48.06	2.2041	10 56 27.7	14.326																																			
17	23 13 0.21	2.2008	10 42 6.3	14.387																																			
18	23 15 12.16	2.1976	10 27 41.2	14.446																																			
19	23 17 23.92	2.1944	10 13 12.7	14.503																																			
20	23 19 35.49	2.1912	9 58 40.9	14.558																																			
21	23 21 46.87	2.1882	9 44 5.8	14.612																																			
22	23 23 58.07	2.1852	9 29 27.5	14.664																																			
23	23 26 9.10	2.1823	9 14 46.1	14.716																																			
24	23 28 19.95	2.1794	S. 9° 0' 1.6"	14.766																																			

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Spica W.	107° 13' 25"	2359	108° 57' 58"	2352	110° 42' 42"	2344	112° 27' 37"	2336
	Antares W.	61 19 47	2352	63 4 31	2344	64 49 27	2335	66 34 36	2326
	α Pegasi E.	47 58 42	3165	46 31 51	3206	45 5 49	3253	43 40 43	3307
	VENUS E.	54 59 12	2728	53 23 9	2719	51 46 55	2710	50 10 29	2701
	SUN E.	91 0 20	2650	89 22 33	2641	87 44 34	2632	86 6 23	2623
2	Antares W.	75 23 28	2284	77 9 51	2277	78 56 25	2269	80 43 10	2262
	VENUS E.	42 5 27	2660	40 27 54	2653	38 50 11	2646	37 12 18	2639
	SUN E.	77 52 25	2580	76 13 2	2572	74 33 28	2564	72 53 43	2556
3	Antares W.	89 39 32	2228	91 27 18	2223	93 15 12	2217	95 3 14	2212
	α Aquilæ W.	50 17 11	3748	51 33 7	3667	52 50 29	3592	54 9 12	3525
	VENUS E.	29 0 42	2610	27 22 1	2606	25 43 14	2602	24 4 22	2601
	SUN E.	64 32 24	2590	62 51 39	2515	61 10 46	2508	59 20 44	2502
4	Antares W.	104 5 14	2190	105 53 56	2187	107 42 43	2185	109 31 33	2182
	α Aquilæ W.	60 59 39	3964	62 24 33	3925	63 50 13	3189	65 16 35	3157
	SUN E.	51 2 45	2480	49 21 3	2476	47 39 16	2472	45 57 24	2470
5	α Aquilæ W.	72 36 55	3040	74 6 18	3024	75 36 1	3011	77 6 0	3000
	Fomalhaut W.	37 56 53	2625	39 35 14	2589	41 14 24	2559	42 54 15	2534
	SUN E.	37 27 27	2465	35 45 24	2466	34 3 23	2467	32 21 23	2468
6	α Aquilæ W.	84 38 34	2974	86 9 19	2975	87 40 3	2977	89 10 44	2981
	Fomalhaut W.	51 20 42	2455	53 2 59	2446	54 45 28	2438	56 28 8	2433
	α Pegasi W.	37 28 6	3470	38 49 4	3373	40 11 51	3291	41 36 13	3220
	SUN E.	23 52 15	2487	22 10 43	2492	20 29 19	2500	18 48 6	2509
9	SUN W.	16 6 44	2741	17 42 29	2752	19 18 0	2765	20 53 14	2779
	Pollux E.	47 24 57	2416	45 41 45	2431	43 58 54	2446	42 16 25	2461
	Regulus E.	83 39 6	2490	81 56 0	2435	80 13 15	2450	78 30 51	2465
10	SUN W.	28 44 34	2857	30 17 48	2873	31 50 42	2889	33 23 15	2906
	Pollux E.	33 49 35	2544	32 9 23	2562	30 29 36	2580	28 50 14	2599
	Regulus E.	70 4 16	2543	68 24 3	2559	66 44 12	2576	65 4 44	2592
11	SUN W.	41 0 38	2990	42 31 3	3007	44 1 7	3025	45 30 49	3041
	MARS W.	16 59 14	2883	18 31 54	2901	20 4 12	2917	21 36 9	2935
	Regulus E.	56 53 2	2676	55 15 50	2692	53 39 0	2709	52 2 32	2726
	SATURN E.	68 49 25	2661	67 11 53	2677	65 34 42	2693	63 57 53	2709
	Spica E.	110 56 31	2678	109 19 21	2693	107 42 32	2709	106 6 4	2724
12	SUN W.	52 54 15	3123	54 21 57	3139	55 49 19	3154	57 16 23	3169
	MARS W.	29 10 44	3014	30 40 39	3030	32 10 15	3045	33 39 32	3060
	Regulus E.	44 5 48	2810	42 31 33	2826	40 57 39	2843	39 24 7	2860
	SATURN E.	55 59 3	2788	54 24 19	2802	52 49 54	2818	51 15 49	2832
	Spica E.	98 8 44	2799	96 34 15	2814	95 0 5	2828	93 26 13	2842
13	SUN W.	64 27 17	3242	65 52 37	3254	67 17 42	3267	68 42 32	3280
	Regulus E.	31 41 51	2945	30 10 29	2963	28 39 30	2982	27 8 55	3001
	SATURN E.	43 30 4	2902	41 57 48	2916	40 25 50	2929	38 54 8	2942
	Spica E.	85 41 22	2909	84 9 14	2922	82 37 23	2934	81 5 47	2946

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Spica W.	114° 12' 44"	2398	115° 58' 2"	2392	117° 43' 30"	2314	119° 29' 9"	2308
	Antares W.	68 19 58	2317	70 5 32	2309	71 51 19	2301	73 37 17	2292
	α Pegasi E.	42 16 40	3370	40 53 49	3441	39 32 19	3524	38 12 21	3690
	VENUS E.	48 33 51	2693	46 57 2	2684	45 20 1	2676	43 42 49	2669
	SUN E.	84 27 59	2615	82 49 24	2605	81 10 36	2596	79 31 36	2588
2	Antares W.	82 30 6	2255	84 17 12	2247	86 4 29	2241	87 51 56	2235
	VENUS E.	35 34 16	2639	33 56 5	2636	32 17 45	2620	30 39 17	2615
	SUN E.	71 13 48	2548	69 33 42	2541	67 53 26	2534	66 13 0	2527
3	Antares W.	96 51 24	2206	98 39 42	2202	100 28 6	2198	102 16 37	2194
	α Aquilæ W.	55 29 9	3402	56 50 16	3406	58 12 26	3354	59 35 35	3306
	VENUS E.	22 25 28	2599	20 46 32	2600	19 7 37	2603	17 28 46	2607
	SUN E.	57 48 34	2497	56 7 16	2492	54 25 52	2487	52 44 21	2484
4	Antares W.	111 20 27	2181	113 9 23	2179	114 58 22	2178	116 47 22	2178
	α Aquilæ W.	66 43 36	3198	68 11 12	3102	69 39 19	3079	71 7 54	3058
	SUN E.	44 15 29	2468	42 33 31	2467	40 51 31	2466	39 9 30	2465
5	α Aquilæ W.	78 36 13	2990	80 6 38	2984	81 37 11	2978	83 7 51	2976
	Fomalhaut W.	44 34 41	2512	46 15 37	2494	47 56 58	2479	49 38 41	2466
	SUN E.	30 39 25	2470	28 57 30	2474	27 15 40	2477	25 33 55	2481
6	α Aquilæ W.	90 41 20	2908	92 11 48	2897	93 42 5	3006	95 12 10	3018
	Fomalhaut W.	58 10 55	2430	59 53 47	2497	61 36 43	2426	63 19 40	2427
	α Pegasi W.	43 1 59	3158	44 28 59	3103	45 57 5	3056	47 26 8	3015
	SUN E.	17 7 5	2520	15 26 19	2531	13 45 49	2545	12 5 38	2561
9	SUN W.	22 28 10	2794	24 2 46	2806	25 37 3	2825	27 10 59	2841
	Pollux E.	40 34 17	2477	38 52 32	2494	37 11 10	2510	35 30 11	2527
	Regulus E.	76 48 49	2480	75 7 8	2496	73 25 49	2512	71 44 52	2527
10	SUN W.	34 55 26	2923	36 27 16	2939	37 58 45	2957	39 29 52	2973
	Pollux E.	27 11 17	2618	25 32 46	2638	23 54 42	2657	22 17 5	2678
	Regulus E.	63 25 38	2609	61 46 55	2626	60 8 35	2642	58 30 37	2659
11	SUN W.	47 0 11	3058	48 29 12	3074	49 57 53	3091	51 26 14	3107
	MARS W.	23 7 44	2950	24 38 59	2966	26 9 54	2982	27 40 29	2998
	Regulus E.	50 26 27	2743	48 50 44	2760	47 15 23	2777	45 40 25	2793
	SATURN E.	62 21 25	2725	60 45 18	2741	59 9 32	2756	57 34 7	2772
	Spica E.	104 29 56	2739	102 54 8	2754	101 18 40	2769	99 43 32	2785
12	SUN W.	58 43 9	3184	60 9 37	3199	61 35 47	3214	63 1 40	3227
	MARS W.	35 8 31	3074	36 37 12	3089	38 5 35	3103	39 33 41	3118
	Regulus E.	37 50 57	2876	36 18 8	2894	34 45 41	2910	33 13 35	2927
	SATURN E.	49 42 3	2847	48 8 36	2861	46 35 27	2876	45 2 37	2889
	Spica E.	91 52 40	2856	90 19 25	2869	88 46 27	2883	87 13 46	2896
13	SUN W.	70 7 7	3292	71 31 28	3304	72 55 35	3315	74 19 29	3325
	Regulus E.	25 38 44	3022	24 8 59	3044	22 39 41	3067	21 10 51	3091
	SATURN E.	37 22 43	2954	35 51 33	2967	34 20 39	2979	32 50 0	2992
	Spica E.	79 34 26	2956	78 3 20	2968	76 32 27	2979	75 1 48	2989

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14	SUN	W. 75° 43' 11"	3336	77° 6' 41"	3346	78° 29' 59"	3356	79° 53' 6"	3365
	Pollux	W. 17 21 45	3032	18 51 18	3034	20 20 49	3037	21 50 16	3039
	SATURN	E. 31 19 37	3003	29 49 28	3015	28 19 34	3027	26 49 55	3039
	Spica	E. 73 31 21	2999	72 1 7	3009	70 31 6	3018	69 1 16	3026
	Antares	E. 119 25 5	2992	117 54 42	3001	116 24 30	3009	114 54 29	3017
15	SUN	W. 86 46 17	3402	88 8 31	3408	89 30 38	3414	90 52 39	3419
	Pollux	W. 29 16 29	3059	30 45 29	3063	32 14 24	3066	33 43 15	3070
	Spica	E. 61 34 37	3065	60 5 45	3071	58 37 0	3078	57 8 23	3083
	Antares	E. 107 26 39	3051	105 57 29	3056	104 28 25	3060	102 59 27	3065
16	SUN	W. 97 41 31	3435	99 3 8	3438	100 24 42	3439	101 46 14	3439
	Pollux	W. 41 6 37	3080	42 35 11	3082	44 3 43	3082	45 32 15	3082
	Spica	E. 49 46 51	3105	48 18 48	3109	46 50 49	3112	45 22 54	3114
	Antares	E. 95 35 50	3081	94 7 17	3082	92 38 46	3083	91 10 16	3084
17	SUN	W. 108 33 56	3436	109 55 32	3433	111 17 11	3431	112 38 53	3428
	Pollux	W. 52 54 58	3077	54 23 36	3075	55 52 16	3072	57 21 0	3069
	Regulus	W. 17 14 15	3232	18 39 46	3208	20 5 46	3187	21 32 11	3168
	Spica	E. 38 4 6	3127	36 36 29	3129	35 8 54	3130	33 41 21	3133
	Antares	E. 83 47 48	3081	82 19 15	3079	80 50 40	3077	79 22 2	3073
18	SUN	W. 119 28 27	3403	120 50 40	3399	122 12 58	3393	123 35 23	3386
	Pollux	W. 64 45 50	3047	66 15 5	3041	67 44 27	3034	69 13 57	3029
	Regulus	W. 28 48 58	3102	30 17 5	3092	31 45 24	3082	33 13 56	3072
	SATURN	W. 16 41 10	3119	18 8 56	3104	19 37 1	3099	21 5 24	3075
	Antares	E. 71 57 49	3054	70 28 43	3048	68 59 30	3043	67 30 10	3037
19	Pollux	W. 76 43 29	2992	78 13 52	2984	79 44 25	2975	81 15 9	2967
	Regulus	W. 40 39 42	3021	42 9 29	3011	43 39 28	3001	45 9 40	2990
	SATURN	W. 28 31 6	3019	30 0 55	3009	31 30 57	2998	33 1 12	2987
	Antares	E. 60 1 35	3003	58 31 26	2995	57 1 7	2998	55 30 39	2979
	α Aquilæ	E. 106 14 56	3855	105 0 50	3835	103 46 24	3816	102 31 38	3796
20	Pollux	W. 88 51 38	2919	90 23 33	2909	91 55 40	2898	93 28 1	2888
	Regulus	W. 52 43 56	2937	54 15 28	2926	55 47 14	2915	57 19 14	2904
	SATURN	W. 40 35 49	2934	42 7 25	2923	43 39 15	2913	45 11 19	2901
	Antares	E. 47 55 39	2936	46 24 6	2927	44 52 22	2918	43 20 26	2909
	α Aquilæ	E. 96 13 10	3715	94 56 39	3701	93 39 53	3689	92 22 54	3676
21	Pollux	W. 101 13 11	2833	102 46 56	2822	104 20 55	2811	105 55 9	2799
	Regulus	W. 65 2 53	2846	66 36 21	2834	68 10 5	2822	69 44 4	2811
	SATURN	W. 52 55 15	2843	54 28 47	2832	56 2 32	2821	57 36 34	2808
	Antares	E. 35 37 55	2965	34 4 51	2957	32 31 37	2949	30 58 13	2943
	α Aquilæ	E. 85 54 56	3626	84 36 50	3620	83 18 37	3613	82 0 17	3609
	Fomalhaut	E. 117 57 48	3043	116 28 29	3026	114 58 48	3009	113 28 47	2993
22	Regulus	W. 77 37 49	2752	79 13 20	2740	80 49 7	2729	82 25 9	2716
	SATURN	W. 65 30 32	2750	67 6 6	2738	68 41 55	2726	70 18 0	2715
	Spica	W. 23 55 38	2859	25 28 50	2835	27 2 33	2811	28 36 46	2791
	α Aquilæ	E. 75 27 40	3600	74 9 6	3602	72 50 34	3606	71 32 6	3612
	Fomalhaut	E. 105 53 44	2917	104 21 47	2903	102 49 32	2890	101 17 0	2876

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14	SUN	W.	81° 16' 2"	3373	82° 38' 49"	3381	84° 1' 27"	3389	85° 23' 56"	3396
	Pollux	W.	23 19 40	3043	24 48 59	3047	26 18 14	3051	27 47 24	3055
	SATURN	E.	25 20 30	3051	23 51 20	3063	22 22 25	3076	20 53 46	3091
	Spica	E.	67 31 36	3035	66 2 7	3043	64 32 48	3051	63 3 38	3058
	Antares	E.	113 24 37	3025	111 54 55	3031	110 25 21	3039	108 55 56	3045
15	SUN	W.	92 14 34	3483	93 36 24	3497	94 58 10	3431	96 19 52	3433
	Pollux	W.	35 12 1	3073	36 40 44	3075	38 9 24	3077	39 38 2	3079
	Spica	E.	55 39 53	3068	54 11 29	3093	52 43 11	3097	51 14 58	3102
	Antares	E.	101 30 35	3069	100 1 48	3073	98 33 5	3076	97 4 26	3078
16	SUN	W.	103 7 46	3440	104 29 17	3439	105 50 49	3438	107 12 22	3438
	Pollux	W.	47 0 46	3082	48 29 17	3082	49 57 49	3081	51 26 22	3078
	Spica	E.	43 55 2	3117	42 27 13	3130	40 59 28	3133	39 31 46	3134
	Antares	E.	89 41 47	3084	88 13 18	3084	86 44 49	3083	85 16 19	3082
17	SUN	W.	114 0 38	3423	115 22 28	3420	116 44 22	3415	118 6 21	3409
	Pollux	W.	58 49 48	3085	60 18 40	3080	61 47 38	3056	63 16 41	3052
	Regulus	W.	22 58 58	3153	24 26 4	3138	25 53 27	3136	27 21 5	3114
	Spica	E.	32 13 52	3136	30 46 26	3139	29 19 4	3143	27 51 47	3148
	Antares	E.	77 53 20	3070	76 24 34	3067	74 55 44	3063	73 26 49	3050
18	SUN	W.	124 57 56	3379	126 20 37	3371	127 43 27	3363	129 6 26	3354
	Pollux	W.	70 43 34	3092	72 13 19	3015	73 43 13	3008	75 13 16	3000
	Regulus	W.	34 42 40	3081	36 11 37	3052	37 40 46	3041	39 10 8	3031
	SATURN	W.	22 34 4	3063	24 2 59	3058	25 32 8	3041	27 1 30	3030
	Antares	E.	66 0 43	3030	64 31 8	3025	63 1 26	3018	61 31 35	3010
19	Pollux	W.	82 46 3	2956	84 17 9	2948	85 48 27	2939	87 19 56	2929
	Regulus	W.	46 40 5	2980	48 10 43	2969	49 41 34	2959	51 12 38	2948
	SATURN	W.	34 31 41	2977	36 2 23	2966	37 33 18	2955	39 4 27	2945
	Antares	E.	54 0 0	2971	52 29 11	2962	50 58 11	2954	49 27 1	2945
	α Aquilæ	E.	101 16 32	2778	100 1 7	2782	98 45 25	2746	97 29 26	2729
20	Pollux	W.	95 0 35	2877	96 33 23	2886	98 6 25	2855	99 39 41	2845
	Regulus	W.	58 51 28	2892	60 23 57	2880	61 56 41	2869	63 29 40	2858
	SATURN	W.	46 43 37	2889	48 16 10	2878	49 48 57	2866	51 21 59	2855
	Antares	E.	41 48 19	2890	40 16 0	2891	38 43 30	2883	37 10 48	2873
	α Aquilæ	E.	91 5 41	2664	89 48 16	2654	88 30 40	2644	87 12 53	2635
21	Pollux	W.	107 29 38	2786	109 4 22	2777	110 39 20	2766	112 14 33	2753
	Regulus	W.	71 18 18	2798	72 52 48	2787	74 27 33	2775	76 2 33	2763
	SATURN	W.	59 10 51	2797	60 45 23	2785	62 20 11	2773	63 55 14	2762
	Antares	E.	29 24 39	2835	27 50 57	2829	26 17 7	2825	24 43 12	2822
	α Aquilæ	E.	80 41 52	2805	79 23 23	2801	78 4 50	2809	76 46 15	2809
	Fomalhaut	E.	111 58 25	2977	110 27 44	2969	108 56 43	2946	107 25 23	2931
22	Regulus	W.	84 1 27	2705	85 38 0	2693	87 14 49	2683	88 51 52	2671
	SATURN	W.	71 54 20	2703	73 30 56	2692	75 7 47	2681	76 44 53	2669
	Spica	W.	30 11 26	2771	31 46 32	2752	33 22 3	2735	34 57 57	2719
	α Aquilæ	E.	70 13 45	2619	68 55 31	2629	67 37 28	2620	66 19 37	2613
	Fomalhaut	E.	99 44 10	2692	98 11 3	2680	96 37 40	2638	95 4 1	2626

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23	Regulus	W.	90° 29' 11"	2660	92° 6' 45"	2649	93° 44' 33"	2638	95° 22' 36"	2627
	SATURN	W.	78 22 14	2658	79 59 50	2647	81 37 41	2636	83 15 47	2626
	Spica	W.	36 34 12	2703	38 10 48	2687	39 47 45	2673	41 25 1	2659
	α Aquilæ	E.	65 2 0	2669	63 44 40	2688	62 27 40	2709	61 11 3	2733
	Fomalhaut	E.	93 30 6	2814	91 55 56	2802	90 21 31	2791	88 46 51	2781
24	Regulus	W.	103 36 27	2577	105 15 54	2566	106 55 35	2557	108 35 29	2548
	Spica	W.	49 35 53	2596	51 14 54	2584	52 54 11	2573	54 33 43	2562
	α Aquilæ	E.	54 55 33	2613	53 42 26	2603	52 30 10	2619	51 18 49	2631
	Fomalhaut	E.	80 50 16	2734	79 14 21	2726	77 38 16	2719	76 2 1	2711
	α Pegasi	E.	99 40 28	2930	98 9 50	2906	96 38 55	2864	95 7 44	2842
25	Spica	W.	62 55 1	2512	64 35 58	2503	66 17 7	2494	67 58 28	2485
	Antares	W.	17 13 40	2616	18 52 13	2586	20 31 27	2561	22 11 15	2541
	Fomalhaut	E.	67 58 40	2686	66 21 41	2682	64 44 37	2680	63 7 30	2678
	α Pegasi	E.	87 28 27	2895	85 56 2	2889	84 23 29	2883	82 50 49	2878
26	Spica	W.	76 28 11	2446	78 10 40	2438	79 53 20	2432	81 36 9	2425
	Antares	W.	30 36 18	2469	32 18 15	2458	34 0 28	2448	35 42 55	2438
	Fomalhaut	E.	55 1 46	2685	53 24 46	2690	51 47 53	2697	50 11 9	2705
	α Pegasi	E.	75 6 16	2868	73 33 16	2869	72 0 18	2871	70 27 22	2875
27	Spica	W.	90 12 31	2396	91 56 12	2390	93 40 1	2385	95 23 57	2381
	Antares	W.	44 18 16	2398	46 1 53	2392	47 45 39	2385	49 29 35	2380
	Fomalhaut	E.	42 11 9	2781	40 36 16	2805	39 1 55	2834	37 28 11	2868
	α Pegasi	E.	62 44 26	2914	61 12 25	2937	59 40 41	2949	58 9 16	2959
	α Arietis	E.	103 54 49	2485	102 13 14	2478	100 31 30	2479	98 49 37	2465
	SUN	E.	133 4 39	2684	131 27 37	2678	129 50 28	2672	128 13 11	2668
28	Spica	W.	104 5 14	2359	105 49 47	2355	107 34 26	2352	109 19 10	2349
	Antares	W.	58 11 15	2353	59 55 57	2348	61 40 46	2344	63 25 41	2339
	α Pegasi	E.	50 38 42	2689	49 10 19	2727	47 42 42	2768	46 15 55	2816
	α Arietis	E.	90 18 14	2441	88 35 37	2437	86 52 55	2433	85 10 8	2431
	VENUS	E.	90 13 59	2724	88 37 51	2720	87 1 38	2716	85 25 19	2712
	SUN	E.	120 5 4	2643	118 27 7	2639	116 49 5	2635	115 10 57	2631
29	Antares	W.	72 11 43	2622	73 57 10	2619	75 42 42	2616	77 28 18	2613
	α Arietis	E.	76 35 16	2420	74 52 10	2419	73 9 2	2418	71 25 53	2416
	VENUS	E.	77 22 29	2694	75 45 41	2691	74 8 49	2687	72 31 52	2685
	SUN	E.	106 59 1	2613	105 20 24	2610	103 41 42	2607	102 2 56	2604
30	Antares	W.	86 17 18	2301	88 3 16	2300	89 49 16	2298	91 35 19	2296
	α Aquilæ	W.	48 0 44	2399	49 12 31	2389	50 25 52	2316	51 40 38	2319
	α Arietis	E.	62 50 18	2424	61 7 17	2427	59 24 21	2430	57 41 29	2434
	VENUS	E.	64 26 17	2672	62 49 0	2671	61 11 41	2669	59 34 19	2667
	SUN	E.	93 48 14	2592	92 9 8	2590	90 29 59	2588	88 50 48	2587
31	Antares	W.	100 26 3	2291	102 12 16	2290	103 58 30	2290	105 44 44	2289
	α Aquilæ	W.	58 12 24	2451	59 33 43	2408	60 55 51	2368	62 18 44	2333
	α Arietis	E.	49 9 4	2469	47 27 7	2480	45 45 25	2491	44 3 59	2505
	VENUS	E.	51 27 0	2661	49 49 28	2660	48 11 54	2659	46 34 19	2659
	SUN	E.	80 34 22	2580	78 55 0	2580	77 15 37	2579	75 36 13	2578

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23	Regulus W.	97° 0' 54"	2617	98° 39' 26"	2606	100° 18' 13"	2596	101° 57' 13"	2586
	SATURN W.	84 54 7	2615	86 32 42	2604	88 11 31	2593	89 50 35	2583
	Spica W.	43 2 36	2646	44 40 29	2632	46 18 40	2620	47 57 8	2607
	α Aquilæ E.	59 54 51	2762	58 39 9	2752	57 23 59	2738	56 9 26	2627
	Fomalhaut E.	87 11 58	2770	85 36 51	2761	84 1 32	2751	82 26 0	2742
24	Regulus W.	110 15 36	2530	111 55 55	2530	113 36 27	2522	115 17 10	2513
	Spica W.	56 13 30	2551	57 53 32	2541	59 33 48	2531	61 14 18	2522
	α Aquilæ E.	50 8 29	4152	48 59 17	4230	47 51 19	4318	46 44 43	4415
	Fomalhaut E.	74 25 36	2705	72 49 3	2699	71 12 22	2694	69 35 34	2689
	α Pegasi E.	93 36 18	2931	92 4 38	2921	90 32 46	2912	89 0 42	2903
25	Spica W.	69 40 2	2477	71 21 47	2469	73 3 44	2461	74 45 52	2453
	Antares W.	23 51 31	2523	25 32 12	2507	27 13 15	2494	28 54 37	2480
	Fomalhaut E.	61 30 20	2677	59 53 9	2678	58 15 59	2679	56 38 51	2681
	α Pegasi E.	81 18 2	2674	79 45 10	2671	78 12 14	2669	76 39 16	2666
26	Spica W.	83 19 8	2419	85 2 16	2412	86 45 33	2407	88 28 58	2401
	Antares W.	37 25 36	2429	39 8 29	2421	40 51 34	2413	42 34 50	2406
	Fomalhaut E.	48 34 36	2715	46 58 16	2728	45 22 13	2743	43 46 30	2760
	α Pegasi E.	68 54 31	2680	67 21 46	2695	65 49 8	2694	64 16 41	2693
27	Spica W.	97 7 59	2376	98 52 8	2371	100 36 24	2367	102 20 46	2363
	Antares W.	51 13 39	2373	52 57 52	2368	54 42 12	2363	56 26 40	2358
	Fomalhaut E.	35 55 11	2908	34 23 2	2854	32 51 52	3011	31 21 53	3078
	α Pegasi E.	56 38 12	2979	55 7 33	3002	53 37 23	3028	52 7 45	3056
	α Arietis E.	97 7 35	2460	95 25 26	2455	93 43 9	2450	92 0 45	2445
	SUN E.	126 35 48	2662	124 58 17	2657	123 20 39	2652	121 42 55	2647
28	Spica W.	111 3 58	2346	112 48 50	2343	114 33 47	2341	116 18 47	2338
	Antares W.	65 10 43	2336	66 55 50	2332	68 41 3	2328	70 26 21	2326
	α Pegasi E.	44 50 5	3270	43 25 18	3330	42 1 41	3399	40 39 23	3477
	α Arietis E.	83 27 17	2426	81 44 22	2425	80 1 23	2423	78 18 21	2421
	VENUS E.	83 48 55	2708	82 12 26	2704	80 35 52	2701	78 59 13	2697
	SUN E.	113 32 44	2696	111 54 25	2694	110 16 2	2690	108 37 34	2616
29	Antares W.	79 13 59	2310	80 59 44	2308	82 45 32	2306	84 31 23	2303
	α Arietis E.	69 42 44	2419	67 59 36	2419	66 16 28	2420	64 33 22	2422
	VENUS E.	70 54 52	2682	69 17 48	2680	67 40 41	2678	66 3 31	2675
	SUN E.	100 24 7	2601	98 45 14	2599	97 6 17	2596	95 27 17	2594
30	Antares W.	93 21 24	2295	95 7 31	2294	96 53 40	2292	98 39 51	2291
	α Aquilæ W.	52 56 44	2671	54 14 2	2608	55 32 28	2550	56 51 57	2497
	α Arietis E.	55 58 43	2439	54 16 4	2445	52 33 34	2452	50 51 13	2460
	VENUS E.	57 56 55	2666	56 19 29	2664	54 42 1	2663	53 4 31	2662
	SUN E.	87 11 35	2585	85 32 19	2584	83 53 2	2583	82 13 43	2581
31	Antares W.	107 30 59	2289	109 17 14	2290	111 3 28	2290	112 49 42	2291
	α Aquilæ W.	63 42 17	2300	65 6 28	2371	66 31 13	2344	67 56 30	2320
	α Arietis E.	42 22 53	2521	40 42 9	2530	39 1 50	2561	37 22 1	2565
	VENUS E.	44 56 44	2659	43 19 9	2658	41 41 33	2658	40 3 57	2659
	SUN E.	73 56 48	2578	72 17 23	2578	70 37 58	2578	68 58 33	2579

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Added to Apparent Time.				
Mon.	1	^h 4 ^m 36 ^s 16.68	10.231	N.22° 3' 34.2	+20.43	15' 48.35	68.41	^m 2 ^s 26.67		0.373	
Tues.	2	4 40 22.45	10.248	22 11 33.1	19.47	15 48.21	68.47	2 17.48		0.390	
Wed.	3	4 44 28.63	10.265	22 19 8.8	18.50	15 48.07	68.52	2 7.89		0.407	
Thur.	4	4 48 35.18	10.280	22 26 21.2	+17.52	15' 47.94	68.57	1 57.93		0.422	
Frid.	5	4 52 42.10	10.294	22 33 10.1	16.54	15 47.82	68.62	1 47.60		0.436	
Sat.	6	4 56 49.35	10.308	22 39 35.4	15.55	15 47.70	68.66	1 36.93		0.450	
SUN.	7	5 0 56.92	10.321	22 45 36.8	+14.56	15 47.58	68.70	1 25 95		0.462	
Mon.	8	5 5 4.78	10.332	22 51 14.3	13.56	15 47.47	68.74	1 14.68		0.474	
Tues.	9	5 9 12.92	10.343	22 56 27.6	12.55	15 47.37	68.78	1 3.14		0.485	
Wed.	10	5 13 21.29	10.353	23 1 16.7	+11.54	15 47.27	68.82	0 51.36		0.495	
Thur.	11	5 17 29.88	10.362	23 5 41.5	10.52	15 47.17	68.85	0 39.36		0.504	
Frid.	12	5 21 38.66	10.369	23 9 41.8	9.50	15 47.08	68.88	0 27.17		0.511	
Sat.	13	5 25 47.62	10.375	23 13 17.6	+ 8.48	15 47.00	68.90	0 14.80		0.518	
SUN.	14	5 29 56.72	10.381	23 16 28.8	7.45	15 46.92	68.92	0 2.30		0.523	
Mon.	15	5 34 5.93	10.386	23 19 15.3	6.42	15 46.85	68.94	0 10.32		0.528	
Tues.	16	5 38 15.24	10.389	23 21 37.1	+ 5.39	15 46.78	68.96	0 23.05		0.532	
Wed.	17	5 42 24.64	10.392	23 23 34.2	4.36	15 46.71	68.97	0 35.86		0.534	
Thur.	18	5 46 34.09	10.394	23 25 6.5	3.33	15 46.64	68.98	0 48.72		0.536	
Frid.	19	5 50 43.59	10.395	23 26 14.1	+ 2.29	15 46.58	68.98	1 1.62		0.537	
Sat.	20	5 54 53.10	10.395	23 26 56.9	1.26	15 46.52	68.98	1 14.53		0.537	
SUN.	21	5 59 2.60	10.395	23 27 14.9	+ 0.23	15 46.47	68.98	1 27.43		0.537	
Mon.	22	6 3 12.07	10.394	23 27 8.1	- 0.80	15 46.42	68.98	1 40.31		0.536	
Tues.	23	6 7 21.51	10.391	23 26 36.5	1.83	15 46.37	68.97	1 53.16		0.534	
Wed.	24	6 11 30.89	10.388	23 25 40.1	2.86	15 46.33	68.96	2 5.95		0.532	
Thur.	25	6 15 40.19	10.384	23 24 19.1	- 3.89	15 46.30	68.94	2 18.65		0.528	
Frid.	26	6 19 49.38	10.380	23 22 33.5	4.92	15 46.26	68.92	2 31.24		0.523	
Sat.	27	6 23 58.44	10.375	23 20 23.2	5.94	15 46.22	68.90	2 43.71		0.518	
SUN.	28	6 28 7.36	10.368	23 17 48.4	- 6.96	15 46.19	68.88	2 56.04		0.511	
Mon.	29	6 32 16.12	10.361	23 14 49.0	7.98	15 46.16	68.85	3 8.22		0.504	
Tues.	30	6 36 24.69	10.352	23 11 25.1	9.00	15 46.14	68.82	3 20.20		0.495	
Wed.	31	6 40 33.06	10.343	N.23 7 36.8	-10.01	15 46.12	68.79	3 31.97		0.485	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing; the sign - indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Subtracted from Mean Time.			
Mon.	1	^h 4 ^m 36 ^s 17.10	^s 10.230	N. ^o 22 ['] 3 ["] 35.0	+20.43	^m 2 ^s 26.66	^s 0.373	^h 4 ^m 38 ^s 43.76	
Tues.	2	4 40 22.85	10.247	22 11 33.8	19.47	2 17.47	0.390	4 42 40.32	
Wed.	3	4 44 29.00	10.264	22 19 9.4	18.50	2 7.88	0.407	4 46 36.88	
Thur.	4	4 48 35.52	10.279	22 26 21.8	+17.52	1 57.92	0.422	4 50 33.44	
Frid.	5	4 52 42.40	10.294	22 33 10.6	16.54	1 47.59	0.436	4 54 29.99	
Sat.	6	4 56 49.63	10.307	22 39 35.8	15.55	1 36.92	0.450	4 58 26.55	
SUN.	7	5 0 57.17	10.320	22 45 37.1	+14.56	1 25.94	0.462	5 2 23.11	
Mon.	8	5 5 5.00	10.331	22 51 14.5	13.56	1 14.67	0.474	5 6 19.67	
Tues.	9	5 9 13.10	10.342	22 56 27.8	12.55	1 3.13	0.485	5 10 16.23	
Wed.	10	5 13 21.43	10.352	23 1 16.8	+11.54	0 51.35	0.495	5 14 12.78	
Thur.	11	5 17 29.99	10.361	23 5 41.5	10.52	0 39.35	0.504	5 18 9.34	
Frid.	12	5 21 38.74	10.368	23 9 41.8	9.50	0 27.16	0.511	5 22 5.90	
Sat.	13	5 25 47.66	10.375	23 13 17.6	+ 8.48	0 14.80	0.518	5 26 2.46	
SUN.	14	5 29 56.72	10.380	23 16 28.8	7.45	0 2.30	0.523	5 29 59.02	
Mon.	15	5 34 5.90	10.385	23 19 15.3	6.42	0 10.32	0.528	5 33 55.58	
Tues.	16	5 38 15.18	10.388	23 21 37.1	+ 5.39	0 23.04	0.532	5 37 52.14	
Wed.	17	5 42 24.54	10.391	23 23 34.2	4.36	0 35.85	0.534	5 41 48.69	
Thur.	18	5 46 33.96	10.393	23 25 6.5	3.33	0 48.71	0.536	5 45 45.25	
Frid.	19	5 50 43.42	10.394	23 26 14.1	+ 2.29	1 1.61	0.537	5 49 41.81	
Sat.	20	5 54 52.89	10.394	23 26 56.9	1.26	1 14.52	0.537	5 53 38.37	
SUN.	21	5 59 2.35	10.394	23 27 14.9	+ 0.23	1 27.42	0.537	5 57 34.93	
Mon.	22	6 3 11.79	10.393	23 27 8.1	- 0.80	1 40.30	0.536	6 1 31.49	
Tues.	23	6 7 21.19	10.391	23 26 36.6	1.83	1 53.15	0.534	6 5 28.04	
Wed.	24	6 11 30.53	10.388	23 25 40.3	2.86	2 5.93	0.532	6 9 24.60	
Thur.	25	6 15 39.79	10.384	23 24 19.3	- 3.89	2 18.63	0.528	6 13 21.16	
Frid.	26	6 19 48.94	10.379	23 22 33.7	4.92	2 31.22	0.523	6 17 17.72	
Sat.	27	6 23 57.97	10.374	23 20 23.5	5.94	2 43.69	0.518	6 21 14.28	
SUN.	28	6 28 6.86	10.367	23 17 48.7	- 6.96	2 56.02	0.511	6 25 10.84	
Mon.	29	6 32 15.59	10.360	23 14 49.4	7.98	3 8.19	0.504	6 29 7.40	
Tues.	30	6 36 24.12	10.351	23 11 25.6	9.00	3 20.17	0.495	6 33 3.95	
Wed.	31	6 40 32.45	10.342	N. 23 7 37.4	-10.01	3 31.94	0.485	6 37 0.51	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing; the sign — indicates that north declinations are decreasing.

Diff. for 1 hour,
+ 9^m.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	152	70° 40' 21.7	40' 17.2	143.68	— 0.35	0.0062091	+27.2	^h 19 ^m 18 ^s 6.01
2	153	71 37 49.8	37 45.1	143.65	0.27	0.0062734	26.3	19 14 10.10
3	154	72 35 17.2	35 12.3	143.62	0.17	0.0063355	25.4	19 10 14.18
4	155	73 32 43.8	32 38.7	143.59	— 0.05	0.0063954	+24.5	19 6 18.26
5	156	74 30 9.6	30 4.4	143.56	+ 0.08	0.0064530	23.5	19 2 22.35
6	157	75 27 34.6	27 29.2	143.53	0.21	0.0065081	22.5	18 58 26.44
7	158	76 24 58.8	24 53.2	143.49	+ 0.34	0.0065607	+21.4	18 54 30.53
8	159	77 22 22.1	22 16.3	143.46	0.46	0.0066109	20.4	18 50 34.61
9	160	78 19 44.5	19 38.6	143.42	0.56	0.0066587	19.4	18 46 38.70
10	161	79 17 6.1	17 0.0	143.38	+ 0.64	0.0067040	+18.4	18 42 42.79
11	162	80 14 26.8	14 20.5	143.34	0.70	0.0067469	17.4	18 38 46.87
12	163	81 11 46.5	11 40.0	143.30	0.73	0.0067875	16.5	18 34 50.95
13	164	82 9 5.3	8 58.6	143.26	+ 0.73	0.0068259	+15.6	18 30 55.04
14	165	83 6 23.2	6 16.3	143.22	0.70	0.0068622	14.7	18 26 59.13
15	166	84 3 40.2	3 33.1	143.19	0.65	0.0068966	13.9	18 23 3.22
16	167	85 0 56.4	0 49.1	143.16	+ 0.56	0.0069291	+13.2	18 19 7.30
17	168	85 58 11.8	58 4.3	143.13	0.45	0.0069599	12.5	18 15 11.39
18	169	86 55 26.5	55 18.8	143.10	0.33	0.0069891	11.8	18 11 15.48
19	170	87 52 40.5	52 32.6	143.07	+ 0.20	0.0070168	+11.2	18 7 19.57
20	171	88 49 53.9	49 45.8	143.05	+ 0.07	0.0070430	10.6	18 3 23.65
21	172	89 47 6.8	46 58.5	143.03	— 0.06	0.0070678	10.0	17 59 27.74
22	173	90 44 19.3	44 10.8	143.01	— 0.18	0.0070912	+ 9.4	17 55 31.83
23	174	91 41 31.5	41 22.8	143.00	0.28	0.0071132	8.9	17 51 35.92
24	175	92 38 43.5	38 34.6	143.00	0.36	0.0071337	8.3	17 47 40.00
25	176	93 35 55.3	35 46.3	143.00	— 0.41	0.0071527	+ 7.6	17 43 44.09
26	177	94 33 7.1	32 57.9	143.00	0.43	0.0071701	6.9	17 39 48.18
27	178	95 30 19.0	30 9.6	143.00	0.42	0.0071858	6.2	17 35 52.27
28	179	96 27 30.9	27 21.3	143.00	— 0.37	0.0071997	+ 5.4	17 31 56.35
29	180	97 24 42.9	24 33.2	143.00	0.30	0.0072116	4.5	17 28 0.44
30	181	98 21 55.1	21 45.3	143.01	0.21	0.0072214	3.6	17 24 4.53
31	182	99 19 7.4	18 57.4	143.02	— 0.10	0.0072289	+ 2.6	17 20 8.62
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								
Diff. for 1 Hour, — 9 ^h .8226. (Table II.)								

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	THE MOON'S								
	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Neon.	Midnight.	Neon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Neon.
							^h ^m	^m	^d
1	16' 11.7	16' 11.0	59' 19.5	-0.16	59' 16.9	-0.29	20 21.2	2.04	24.2
2	16 9.8	16 8.2	59 12.7	0.42	59 6.9	0.56	21 10.3	2.07	25.2
3	16 6.2	16 3.6	58 59.4	0.71	58 50.0	0.86	22 0.6	2.14	26.2
4	16 0.6	15 57.1	58 39.0	-1.00	58 26.2	-1.14	22 53.1	2.23	27.2
5	15 53.2	15 48.9	58 11.8	1.26	57 56.0	1.37	23 47.6	2.30	28.2
6	15 44.3	15 39.4	57 38.9	1.47	57 20.9	1.54	6		29.2
7	15 34.3	15 29.0	57 2.1	-1.59	56 42.9	-1.60	0 43.6	2.34	0.8
8	15 23.7	15 18.6	56 23.7	1.60	56 4.7	1.56	1 39.7	2.30	1.8
9	15 13.6	15 8.9	55 46.3	1.50	55 28.9	1.40	2 34.1	2.21	2.8
10	15 4.5	15 0.5	55 12.7	-1.29	54 58.1	-1.15	3 25.7	2.08	3.8
11	14 57.0	14 54.0	54 45.2	0.99	54 34.3	0.82	4 13.9	1.94	4.8
12	14 51.7	14 49.9	54 25.7	0.63	54 19.3	0.43	4 59.0	1.82	5.8
13	14 48.9	14 48.5	54 15.5	-0.22	54 14.1	-0.01	5 41.3	1.73	6.8
14	14 48.9	14 49.9	54 15.4	+0.22	54 19.3	+0.43	6 22.1	1.68	7.8
15	14 51.7	14 54.1	54 25.7	0.64	54 34.6	0.85	7 2.2	1.68	8.8
16	14 57.2	15 0.9	54 45.9	+1.04	54 59.5	+1.22	7 42.8	1.72	9.8
17	15 5.1	15 9.9	55 15.1	1.38	55 32.5	1.52	8 24.9	1.81	10.8
18	15 15.0	15 20.5	55 51.4	1.63	56 11.6	1.73	9 9.8	1.95	11.8
19	15 26.2	15 32.1	56 32.7	+1.78	56 54.2	+1.80	9 58.5	2.12	12.8
20	15 38.0	15 43.8	57 15.8	1.79	57 37.1	1.75	10 51.5	2.30	13.8
21	15 49.4	15 54.7	57 57.7	1.67	58 17.1	1.56	11 48.8	2.45	14.8
22	15 59.5	16 3.9	58 35.0	+1.42	58 51.0	+1.26	12 49.2	2.53	15.8
23	16 7.7	16 10.9	59 5.0	1.08	59 16.7	0.88	13 50.4	2.52	16.8
24	16 13.4	16 15.3	59 25.9	0.67	59 32.7	0.47	14 50.0	2.42	17.8
25	16 16.4	16 17.0	59 37.0	+0.27	59 39.0	+0.08	15 46.7	2.29	18.8
26	16 16.9	16 16.3	59 38.8	-0.11	59 36.5	-0.27	16 39.9	2.16	19.8
27	16 15.2	16 13.6	59 32.4	0.41	59 26.7	0.54	17 30.4	2.06	20.8
28	16 11.7	16 9.4	59 19.5	-0.65	59 11.1	-0.75	18 19.0	2.02	21.8
29	16 6.8	16 4.0	59 1.7	0.83	58 51.3	0.90	19 7.3	2.02	22.8
30	16 0.9	15 57.7	58 40.1	0.96	58 28.3	1.01	19 56.2	2.07	23.8
31	15 54.3	15 50.7	58 15.8	-1.07	58 2.7	-1.11	20 46.7	2.15	24.8

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 1.					WEDNESDAY 3.				
0	h m s	s	S. ° ' "	"	0	h m s	s	N. ° ' "	"
0	19 59.53	2.1325	S. 2 54' 51.0	15.527	0	2 2 31.58	2.1670	N. 9 20' 56.5	14.581
1	0 22 7.45	2.1316	2 39 19.0	15.541	1	2 4 41.67	2.1693	9 35 29.7	14.526
2	0 24 15.32	2.1307	2 23 46.1	15.554	2	2 6 51.90	2.1717	9 49 59.6	14.470
3	0 26 23.13	2.1298	2 8 12.5	15.565	3	2 9 2.28	2.1742	10 4 26.1	14.412
4	0 28 30.89	2.1290	1 52 38.3	15.574	4	2 11 12.81	2.1767	10 18 49.1	14.353
5	0 30 38.61	2.1283	1 37 3.6	15.582	5	2 13 23.49	2.1792	10 33 8.5	14.293
6	0 32 46.29	2.1277	1 21 28.4	15.589	6	2 15 34.32	2.1818	10 47 24.3	14.232
7	0 34 53.94	2.1271	1 5 52.9	15.594	7	2 17 45.31	2.1845	11 1 36.3	14.168
8	0 37 1.55	2.1266	0 50 17.1	15.598	8	2 19 56.46	2.1873	11 15 44.4	14.103
9	0 39 9.13	2.1262	0 34 41.1	15.601	9	2 22 7.78	2.1900	11 29 48.6	14.037
10	0 41 16.69	2.1258	0 19 5.0	15.602	10	2 24 19.26	2.1928	11 43 48.8	13.969
11	0 43 24.23	2.1256	S. 0 3 28.9	15.602	11	2 26 30.92	2.1957	11 57 44.9	12.901
12	0 45 31.76	2.1254	N. 0 12 7.2	15.600	12	2 28 42.75	2.1986	12 11 36.9	13.831
13	0 47 39.28	2.1253	0 27 43.1	15.597	13	2 30 54.75	2.2015	12 25 24.7	13.759
14	0 49 46.80	2.1253	0 43 18.8	15.592	14	2 33 6.93	2.2045	12 39 8.0	13.684
15	0 51 54.32	2.1254	0 58 54.1	15.585	15	2 35 19.29	2.2075	12 52 46.8	13.609
16	0 54 1.85	2.1256	1 14 29.0	15.577	16	2 37 31.83	2.2106	13 6 21.1	13.534
17	0 56 9.39	2.1258	1 30 3.4	15.569	17	2 39 44.56	2.2137	13 19 50.9	13.457
18	0 58 16.94	2.1260	1 45 37.3	15.559	18	2 41 57.48	2.2168	13 33 16.0	13.378
19	1 0 24.51	2.1264	2 1 10.5	15.547	19	2 44 10.58	2.2199	13 46 36.3	13.298
20	1 2 32.11	2.1268	2 16 42.9	15.533	20	2 46 23.87	2.2232	13 59 51.8	13.217
21	1 4 39.73	2.1272	2 32 14.5	15.519	21	2 48 37.36	2.2264	14 13 2.3	13.133
22	1 6 47.38	2.1278	2 47 45.2	15.502	22	2 50 51.04	2.2297	14 26 7.8	13.049
23	1 8 55.07	2.1286	N. 3 3 14.8	15.484	23	2 53 4.92	2.2330	N. 14 39 8.2	12.963
TUESDAY 2.					THURSDAY 4.				
0	1 11 2.81	2.1293	N. 3 18 43.3	15.466	0	2 55 18.99	2.2369	N. 14 52 3.4	12.877
1	1 13 10.59	2.1301	3 34 10.7	15.446	1	2 57 33.26	2.2395	15 4 53.4	12.788
2	1 15 18.42	2.1309	3 49 36.8	15.423	2	2 59 47.73	2.2422	15 17 38.0	12.698
3	1 17 26.30	2.1318	4 5 1.5	15.400	3	3 2 2.41	2.2453	15 30 17.2	12.607
4	1 19 34.24	2.1328	4 20 24.8	15.376	4	3 4 17.29	2.2487	15 42 50.9	12.515
5	1 21 42.24	2.1339	4 35 46.6	15.350	5	3 6 32.37	2.2531	15 55 19.0	12.421
6	1 23 50.31	2.1351	4 51 6.8	15.322	6	3 8 47.66	2.2565	16 7 41.4	12.326
7	1 25 58.45	2.1363	5 6 25.3	15.293	7	3 11 3.15	2.2599	16 19 58.1	12.230
8	1 28 6.67	2.1376	5 21 42.0	15.263	8	3 13 18.85	2.2634	16 32 9.0	12.132
9	1 30 14.97	2.1390	5 36 56.8	15.231	9	3 15 34.76	2.2669	16 44 13.9	12.032
10	1 32 23.35	2.1404	5 52 9.7	15.197	10	3 17 50.88	2.2704	16 56 12.8	11.932
11	1 34 31.82	2.1418	6 7 20.5	15.162	11	3 20 7.21	2.2738	17 8 5.7	11.831
12	1 36 40.37	2.1433	6 22 29.2	15.127	12	3 22 23.74	2.2773	17 19 52.5	11.728
13	1 38 49.02	2.1450	6 37 35.7	15.089	13	3 24 40.48	2.2808	17 31 33.0	11.623
14	1 40 57.77	2.1467	6 52 39.9	15.050	14	3 26 57.44	2.2844	17 43 7.2	11.518
15	1 43 6.63	2.1485	7 7 41.7	15.010	15	3 29 14.61	2.2879	17 54 35.1	11.412
16	1 45 15.59	2.1503	7 22 41.1	14.968	16	3 31 31.99	2.2913	18 5 56.6	11.304
17	1 47 24.66	2.1522	7 37 37.9	14.924	17	3 33 49.57	2.2947	18 17 11.6	11.195
18	1 49 33.85	2.1542	7 52 32.0	14.879	18	3 36 7.36	2.2982	18 28 20.0	11.084
19	1 51 43.16	2.1562	8 7 23.4	14.833	19	3 38 25.36	2.3017	18 39 21.7	10.972
20	1 53 52.59	2.1582	8 22 12.0	14.786	20	3 40 43.57	2.3052	18 50 16.7	10.859
21	1 56 2.14	2.1602	8 36 57.7	14.737	21	3 43 1.99	2.3087	19 1 4.8	10.744
22	1 58 11.82	2.1624	8 51 40.4	14.686	22	3 45 20.61	2.3121	19 11 46.0	10.629
23	2 0 21.63	2.1647	9 6 20.0	14.634	23	3 47 39.44	2.3155	19 22 20.3	10.513
24	2 2 31.58	2.1670	N. 9 20 56.5	14.581	24	3 49 58.47	2.3189	N. 19 32 47.6	10.396

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 5.					SUNDAY 7.				
0	h m s	s	N. 19° 32' 47.6"	10.396	0	h m s	s	N. 25° 18' 12.3"	3.792
1	3 49 58.47	2.3189	19 43 7.8	10.377	1	5 44 21.29	2.4907	25 21 51.1	3.571
2	3 52 17.71	2.3223	19 53 20.9	10.357	2	5 46 46.54	2.4908	25 25 20.8	3.419
3	3 54 37.15	2.3257	20 3 26.7	10.036	3	5 49 11.79	2.4908	25 28 41.4	3.267
4	3 56 56.79	2.3290	20 13 25.2	9.914	4	5 51 37.04	2.4907	25 31 52.8	3.114
5	4 1 16.63	2.3323	20 23 16.4	9.791	5	5 54 2.28	2.4906	25 34 55.1	2.962
6	4 1 36.67	2.3356	20 33 0.1	9.668	6	5 56 27.51	2.4902	25 37 48.3	2.810
7	4 3 56.90	2.3388	20 42 36.3	9.541	7	5 58 52.71	2.4198	25 40 52.3	2.658
8	4 6 17.32	2.3429	20 52 5.0	9.415	8	6 1 17.89	2.4194	25 43 7.2	2.506
9	4 8 37.94	2.3452	21 1 26.1	9.287	9	6 3 43.04	2.4188	25 45 33.0	2.353
10	4 10 58.75	2.3484	21 10 39.5	9.159	10	6 6 8.15	2.4181	25 47 49.6	2.201
11	4 13 19.75	2.3515	21 19 45.2	9.030	11	6 8 33.21	2.4172	25 49 57.1	2.049
12	4 15 40.93	2.3545	21 28 43.1	8.900	12	6 10 58.21	2.4162	25 51 55.5	1.897
13	4 18 2.29	2.3575	21 37 33.2	8.768	13	6 13 23.15	2.4152	25 53 44.7	1.745
14	4 20 23.83	2.3605	21 46 15.3	8.635	14	6 15 48.03	2.4141	25 55 24.9	1.594
15	4 22 45.55	2.3634	21 54 49.4	8.502	15	6 18 12.84	2.4129	25 56 56.0	1.443
16	4 25 7.44	2.3662	22 3 15.5	8.368	16	6 20 37.58	2.4116	25 58 18.0	1.292
17	4 27 29.50	2.3691	22 11 33.6	8.234	17	6 23 2.23	2.4101	25 59 31.0	1.141
18	4 29 51.73	2.3719	22 19 43.6	8.098	18	6 25 26.79	2.4085	26 0 34.9	0.990
19	4 32 14.13	2.3746	22 27 45.4	7.961	19	6 27 51.25	2.4068	26 1 29.8	0.840
20	4 34 36.68	2.3772	22 35 38.9	7.823	20	6 30 15.61	2.4051	26 2 15.7	0.689
21	4 36 59.39	2.3798	22 43 24.1	7.684	21	6 32 39.86	2.4032	26 2 52.5	0.539
22	4 39 22.26	2.3824	22 51 1.0	7.546	22	6 35 3.99	2.4012	26 3 20.4	0.390
23	4 41 45.28	2.3848	N. 22° 58' 29.6"	7.407	23	6 37 28.00	2.3992	N. 26° 3' 39.3"	0.241
24	4 44 8.44	2.3872				6 39 51.89	2.3970		
SATURDAY 6.					MONDAY 8.				
0	4 46 31.74	2.3895	N. 23° 5' 49.8"	7.268	0	6 42 15.64	2.3947	N. 26° 3' 49.3"	+ 0.093
1	4 48 55.18	2.3918	23 13 1.5	7.134	1	6 44 39.25	2.3923	26 3 50.4	- 0.055
2	4 51 18.75	2.3940	23 20 4.7	6.981	2	6 47 2.72	2.3898	26 3 42.7	0.202
3	4 53 42.46	2.3962	23 26 59.3	6.838	3	6 49 26.03	2.3872	26 3 26.1	0.350
4	4 56 6.29	2.3982	23 33 45.3	6.695	4	6 51 49.18	2.3845	26 3 0.7	0.497
5	4 58 30.24	2.4001	23 40 22.7	6.552	5	6 54 12.17	2.3818	26 2 26.5	0.643
6	5 0 54.30	2.4019	23 46 51.5	6.408	6	6 56 35.00	2.3790	26 1 43.5	0.789
7	5 3 18.47	2.4038	23 53 11.6	6.262	7	6 58 57.65	2.3760	26 0 51.8	0.934
8	5 5 42.75	2.4056	23 59 22.9	6.115	8	7 1 20.12	2.3729	25 59 51.4	1.078
9	5 8 7.14	2.4072	24 5 25.4	5.968	9	7 3 42.40	2.3698	25 58 42.4	1.222
10	5 10 31.62	2.4087	24 11 19.1	5.822	10	7 6 4.49	2.3666	25 57 24.8	1.365
11	5 12 56.19	2.4102	24 17 4.0	5.674	11	7 8 26.39	2.3633	25 55 58.6	1.508
12	5 15 20.84	2.4115	24 22 40.0	5.526	12	7 10 48.09	2.3599	25 54 23.8	1.651
13	5 17 45.57	2.4128	24 28 7.1	5.377	13	7 13 9.58	2.3564	25 52 40.5	1.792
14	5 20 10.38	2.4141	24 33 25.3	5.229	14	7 15 30.86	2.3528	25 50 48.8	1.932
15	5 22 35.26	2.4152	24 38 34.6	5.080	15	7 17 51.92	2.3492	25 48 48.7	2.072
16	5 25 0.20	2.4162	24 43 34.9	4.931	16	7 20 12.76	2.3454	25 46 40.2	2.211
17	5 27 25.20	2.4170	24 48 26.3	4.781	17	7 22 33.37	2.3416	25 44 23.4	2.350
18	5 29 50.24	2.4178	24 53 8.6	4.630	18	7 24 53.75	2.3377	25 41 58.2	2.488
19	5 32 15.33	2.4186	24 57 41.9	4.479	19	7 27 13.90	2.3337	25 39 24.8	2.625
20	5 34 40.47	2.4192	25 2 6.1	4.328	20	7 29 33.80	2.3297	25 36 43.2	2.761
21	5 37 5.64	2.4197	25 6 21.3	4.177	21	7 31 53.46	2.3256	25 33 53.5	2.896
22	5 39 30.83	2.4201	25 10 27.4	4.026	22	7 34 12.87	2.3214	25 30 55.7	3.031
23	5 41 56.05	2.4205	25 14 24.4	3.874	23	7 36 32.03	2.3172	25 27 49.8	3.166
24	5 44 21.29	2.4207	N. 25° 18' 12.3"	3.722	24	7 38 50.93	2.3128	N. 25° 24' 35.9"	3.298

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 9.					THURSDAY 11.				
0	^h 7 ^m 38 ^s 50.93	2.3198	N.25° 24' 35.9"	3.398	0	^h 9 ^m 24 ^s 5.70	2.0653	N.20° 30' 48.9"	8.565
1	7 41 9.57	2.3084	25 21 14.0	3.431	1	9 26 9.46	2.0601	20 22 12.4	8.650
2	7 43 27.94	2.3040	25 17 44.2	3.569	2	9 28 12.91	2.0549	20 13 30.9	8.734
3	7 45 46.05	2.2996	25 14 6.6	3.691	3	9 30 16.05	2.0497	20 4 44.4	8.817
4	7 48 3.89	2.2950	25 10 21.3	3.800	4	9 32 18.87	2.0444	19 55 52.9	8.900
5	7 50 21.45	2.2903	25 6 28.2	3.950	5	9 34 21.38	2.0393	19 46 56.4	8.982
6	7 52 38.73	2.2856	25 2 27.3	4.078	6	9 36 23.59	2.0342	19 37 55.1	9.062
7	7 54 55.73	2.2809	24 58 18.8	4.205	7	9 38 25.49	2.0292	19 28 49.0	9.142
8	7 57 12.44	2.2762	24 54 2.7	4.331	8	9 40 27.09	2.0241	19 19 38.1	9.220
9	7 59 28.87	2.2713	24 49 39.1	4.456	9	9 42 28.38	2.0190	19 10 22.6	9.298
10	8 1 45.00	2.2664	24 45 8.0	4.580	10	9 44 29.37	2.0141	19 1 2.4	9.375
11	8 4 0.84	2.2616	24 40 29.5	4.703	11	9 46 30.07	2.0092	18 51 37.6	9.451
12	8 6 16.39	2.2567	24 35 43.6	4.826	12	9 48 30.47	2.0043	18 42 8.3	9.525
13	8 8 31.64	2.2516	24 30 50.4	4.947	13	9 50 30.58	1.9994	18 32 34.6	9.599
14	8 10 46.58	2.2465	24 25 50.0	5.067	14	9 52 30.40	1.9945	18 22 56.4	9.673
15	8 13 1.22	2.2414	24 20 42.4	5.187	15	9 54 29.92	1.9897	18 13 13.8	9.746
16	8 15 15.55	2.2363	24 15 27.6	5.305	16	9 56 29.16	1.9848	18 3 26.9	9.817
17	8 17 29.57	2.2312	24 10 5.8	5.422	17	9 58 28.11	1.9800	17 53 35.8	9.887
18	8 19 43.29	2.2261	24 4 37.0	5.538	18	10 0 26.78	1.9755	17 43 40.5	9.956
19	8 21 56.70	2.2208	23 59 1.2	5.654	19	10 2 25.17	1.9708	17 33 41.1	10.025
20	8 24 9.79	2.2155	23 53 18.5	5.768	20	10 4 23.28	1.9660	17 23 37.5	10.093
21	8 26 22.56	2.2102	23 47 29.0	5.882	21	10 6 21.12	1.9617	17 13 29.9	10.159
22	8 28 35.02	2.2050	23 41 32.7	5.994	22	10 8 18.69	1.9573	17 3 18.4	10.225
23	8 30 47.16	2.1997	N.23 35 29.7	6.105	23	10 10 15.99	1.9527	N.16 53 2.9	10.291
WEDNESDAY 10.					FRIDAY 12.				
0	8 32 58.98	2.1943	N.23 29 20.1	6.215	0	10 12 13.02	1.9488	N.16 42 43.5	10.355
1	8 35 10.48	2.1890	23 23 3.9	6.325	1	10 14 9.78	1.9439	16 32 20.3	10.418
2	8 37 21.66	2.1836	23 16 41.1	6.434	2	10 16 6.29	1.9397	16 21 53.3	10.481
3	8 39 32.52	2.1789	23 10 11.8	6.542	3	10 18 2.54	1.9354	16 11 22.6	10.543
4	8 41 43.05	2.1738	23 3 36.1	6.648	4	10 19 58.54	1.9319	16 0 48.2	10.604
5	8 43 53.26	2.1675	22 56 54.0	6.753	5	10 21 54.29	1.9270	15 50 10.1	10.664
6	8 46 3.15	2.1621	22 50 5.7	6.857	6	10 23 49.78	1.9228	15 39 28.5	10.723
7	8 48 12.71	2.1567	22 43 11.2	6.960	7	10 25 45.03	1.9188	15 28 43.3	10.782
8	8 50 21.95	2.1512	22 36 10.5	7.063	8	10 27 40.04	1.9148	15 17 54.6	10.839
9	8 52 30.86	2.1458	22 29 3.6	7.165	9	10 29 34.81	1.9109	15 7 2.6	10.895
10	8 54 39.45	2.1404	22 21 50.7	7.265	10	10 31 29.35	1.9070	14 56 7.2	10.952
11	8 56 47.71	2.1350	22 14 31.8	7.364	11	10 33 23.65	1.9031	14 45 8.4	11.008
12	8 58 55.65	2.1296	22 7 7.0	7.462	12	10 35 17.72	1.8993	14 34 6.3	11.062
13	9 1 3.26	2.1242	21 59 36.3	7.560	13	10 37 11.57	1.8956	14 23 1.0	11.115
14	9 3 10.55	2.1187	21 51 59.8	7.656	14	10 39 5.20	1.8919	14 11 52.5	11.168
15	9 5 17.51	2.1133	21 44 17.6	7.751	15	10 40 58.60	1.8882	14 0 40.8	11.221
16	9 7 24.15	2.1080	21 36 29.7	7.845	16	10 42 51.79	1.8847	13 49 26.0	11.272
17	9 9 30.47	2.1026	21 28 36.2	7.938	17	10 44 44.77	1.8812	13 38 8.1	11.323
18	9 11 36.46	2.0972	21 20 37.1	8.031	18	10 46 37.54	1.8777	13 26 47.2	11.373
19	9 13 42.13	2.0918	21 12 32.5	8.122	19	10 48 30.10	1.8743	13 15 23.4	11.422
20	9 15 47.48	2.0865	21 4 22.4	8.212	20	10 50 22.46	1.8711	13 3 56.6	11.471
21	9 17 52.51	2.0812	20 56 7.0	8.301	21	10 52 14.63	1.8678	12 52 26.9	11.518
22	9 19 57.22	2.0759	20 47 46.3	8.390	22	10 54 6.00	1.8646	12 40 54.4	11.565
23	9 22 1.62	2.0706	20 39 20.2	8.478	23	10 55 58.38	1.8614	12 29 19.1	11.612
24	9 24 5.70	2.0653	N.20 30 48.9	8.565	24	10 57 49.97	1.8583	N.12 17 41.0	11.657

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 13.					MONDAY 15.				
0	^h 10 ^m 57 ^s 49.97	1.8583	N. 12° 17' 41.0	11.657	0	^h 12 ^m 24 ^s 43.10	1.7881	N. 2° 18' 36.9	13.057
1	10 59 41.38	1.8553	12 6 0.2	11.709	1	12 26 30.39	1.7883	2 5 33.1	13.070
2	11 1 32.61	1.8523	11 54 16.8	11.745	2	12 28 17.70	1.7886	1 52 28.5	13.083
3	11 3 23.66	1.8494	11 42 30.8	11.788	3	12 30 5.03	1.7890	1 39 23.1	13.096
4	11 5 14.54	1.8466	11 30 42.2	11.831	4	12 31 52.38	1.7895	1 26 17.0	13.107
5	11 7 5.26	1.8439	11 18 51.0	11.874	5	12 33 39.77	1.7901	1 13 10.2	13.118
6	11 8 55.81	1.8412	11 6 57.3	11.915	6	12 35 27.19	1.7907	1 0 2.8	13.128
7	11 10 46.20	1.8385	10 55 1.2	11.955	7	12 37 14.65	1.7913	0 46 54.8	13.138
8	11 12 36.43	1.8359	10 43 2.7	11.995	8	12 39 2.15	1.7921	0 33 46.2	13.148
9	11 14 26.51	1.8334	10 31 1.8	12.035	9	12 40 49.70	1.7929	0 20 37.0	13.156
10	11 16 16.44	1.8309	10 18 58.5	12.073	10	12 42 37.30	1.7938	N. 0° 7' 27.4	13.164
11	11 18 6.22	1.8285	10 6 53.0	12.110	11	12 44 24.96	1.7948	S. 0 5 42.7	13.172
12	11 19 55.86	1.8262	9 54 45.3	12.147	12	12 46 12.68	1.7958	0 18 53.2	13.178
13	11 21 45.37	1.8240	9 42 35.4	12.183	13	12 48 0.46	1.7970	0 32 4.1	13.184
14	11 23 34.74	1.8218	9 30 23.3	12.220	14	12 49 48.32	1.7983	0 45 15.3	13.189
15	11 25 23.98	1.8197	9 18 9.0	12.256	15	12 51 36.25	1.7995	0 58 26.8	13.194
16	11 27 13.10	1.8177	9 5 52.6	12.290	16	12 53 24.26	1.8008	1 11 38.6	13.197
17	11 29 2.10	1.8156	8 53 34.2	12.324	17	12 55 12.35	1.8022	1 24 50.5	13.200
18	11 30 50.97	1.8136	8 41 13.8	12.357	18	12 57 0.52	1.8037	1 38 2.6	13.203
19	11 32 39.73	1.8118	8 28 51.4	12.389	19	12 58 48.79	1.8053	1 51 14.9	13.205
20	11 34 28.39	1.8101	8 16 27.1	12.421	20	13 0 37.16	1.8069	2 4 27.2	13.206
21	11 36 16.94	1.8084	8 4 0.9	12.452	21	13 2 25.62	1.8086	2 17 39.6	13.207
22	11 38 5.39	1.8067	7 51 32.8	12.483	22	13 4 14.19	1.8104	2 30 52.0	13.206
23	11 39 53.74	1.8051	N. 7° 39' 2.9	12.513	23	13 6 2.87	1.8122	S. 2 44 4.3	13.205
SUNDAY 14.					TUESDAY 16.				
0	11 41 42.00	1.8036	N. 7° 26' 31.3	12.549	0	13 7 51.66	1.8149	S. 2° 57' 16.6	13.204
1	11 43 30.17	1.8022	7 13 57.9	12.571	1	13 9 40.57	1.8162	3 10 28.8	13.202
2	11 45 18.26	1.8007	7 1 22.8	12.596	2	13 11 29.60	1.8178	3 23 40.8	13.198
3	11 47 6.26	1.7994	6 48 46.1	12.626	3	13 13 18.76	1.8204	3 36 52.6	13.194
4	11 48 54.19	1.7989	6 36 7.7	12.653	4	13 15 8.05	1.8227	3 50 4.1	13.189
5	11 50 42.05	1.7970	6 23 27.7	12.679	5	13 16 57.48	1.8250	4 3 15.3	13.184
6	11 52 29.83	1.7958	6 10 46.2	12.704	6	13 18 47.05	1.8273	4 16 26.2	13.178
7	11 54 17.55	1.7948	5 58 3.2	12.729	7	13 20 36.76	1.8298	4 29 36.7	13.172
8	11 56 5.21	1.7939	5 45 18.7	12.754	8	13 22 26.63	1.8324	4 42 46.8	13.164
9	11 57 52.82	1.7931	5 32 32.7	12.777	9	13 24 16.65	1.8350	4 55 56.4	13.156
10	11 59 40.38	1.7922	5 19 45.4	12.800	10	13 26 6.83	1.8377	5 9 5.5	13.147
11	12 1 27.89	1.7914	5 6 56.7	12.822	11	13 27 57.17	1.8404	5 22 14.0	13.137
12	12 3 15.35	1.7908	4 54 6.7	12.844	12	13 29 47.67	1.8432	5 35 21.9	13.126
13	12 5 2.78	1.7902	4 41 15.4	12.865	13	13 31 38.35	1.8461	5 48 29.1	13.114
14	12 6 50.17	1.7896	4 28 22.9	12.886	14	13 33 29.21	1.8491	6 1 35.6	13.102
15	12 8 37.53	1.7891	4 15 29.1	12.906	15	13 35 20.24	1.8521	6 14 41.4	13.089
16	12 10 24.86	1.7887	4 2 34.2	12.925	16	13 37 11.46	1.8552	6 27 46.3	13.075
17	12 12 12.17	1.7884	3 49 38.1	12.944	17	13 39 2.87	1.8584	6 40 50.4	13.061
18	12 13 59.47	1.7882	3 36 40.9	12.962	18	13 40 54.47	1.8617	6 53 53.6	13.045
19	12 15 46.75	1.7879	3 23 42.7	12.979	19	13 42 46.27	1.8651	7 6 55.8	13.029
20	12 17 34.02	1.7878	3 10 43.5	12.996	20	13 44 38.28	1.8685	7 19 57.1	13.012
21	12 19 21.29	1.7877	2 57 43.2	13.012	21	13 46 30.49	1.8720	7 32 57.3	12.993
22	12 21 8.55	1.7877	2 44 42.0	13.027	22	13 48 22.92	1.8756	7 45 56.3	12.974
23	12 22 55.82	1.7879	2 31 39.9	13.042	23	13 50 15.56	1.8792	7 58 54.2	12.955
24	12 24 43.10	1.7881	N. 2° 18' 36.9	13.057	24	13 52 8.42	1.8828	S. 8 11 50.9	12.934

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

our.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 17.					FRIDAY 19.				
0	13 52 8.42	1.8828	S. 8 11 50.9	12.934	0	15 28 6.85	2.1400	S. 17 49 50.1	10.713
1	13 54 1.50	1.8867	8 24 46.3	12.912	1	15 30 15.45	2.1467	18 0 30.6	10.637
2	13 55 54.82	1.8906	8 37 40.4	12.890	2	15 32 24.45	2.1534	18 11 6.5	10.559
3	13 57 48.37	1.8945	8 50 33.1	12.867	3	15 34 33.86	2.1602	18 21 37.7	10.480
4	13 59 42.16	1.8985	9 3 24.4	12.844	4	15 36 43.68	2.1671	18 32 4.1	10.400
5	14 1 36.19	1.9026	9 16 14.2	12.817	5	15 38 53.91	2.1739	18 42 25.7	10.318
6	14 3 30.47	1.9067	9 29 2.5	12.792	6	15 41 4.55	2.1808	18 52 42.3	10.235
7	14 5 25.00	1.9110	9 41 49.2	12.765	7	15 43 15.61	2.1877	19 2 53.9	10.151
8	14 7 19.79	1.9153	9 54 34.3	12.737	8	15 45 27.08	2.1946	19 13 0.4	10.064
9	14 9 14.84	1.9197	10 7 17.6	12.707	9	15 47 38.96	2.2015	19 23 1.6	9.976
10	14 11 10.15	1.9240	10 19 59.1	12.677	10	15 49 51.26	2.2085	19 32 57.5	9.887
11	14 13 5.72	1.9284	10 32 38.8	12.647	11	15 52 3.98	2.2155	19 42 48.1	9.797
12	14 15 1.56	1.9330	10 45 16.7	12.615	12	15 54 17.12	2.2225	19 52 33.2	9.705
13	14 16 57.68	1.9377	10 57 52.6	12.589	13	15 56 30.68	2.2296	20 2 12.7	9.612
14	14 18 54.09	1.9425	11 10 26.5	12.548	14	15 58 44.67	2.2367	20 11 46.6	9.517
15	14 20 50.78	1.9473	11 22 58.3	12.513	15	16 0 59.08	2.2437	20 21 14.8	9.421
16	14 22 47.76	1.9522	11 35 28.0	12.477	16	16 3 13.92	2.2508	20 30 37.1	9.322
17	14 24 45.04	1.9571	11 47 55.5	12.439	17	16 5 29.18	2.2578	20 39 53.5	9.223
18	14 26 42.61	1.9620	12 0 20.7	12.401	18	16 7 44.86	2.2649	20 49 3.9	9.122
19	14 28 40.48	1.9671	12 12 43.6	12.369	19	16 10 0.97	2.2721	20 58 8.2	9.020
20	14 30 38.66	1.9723	12 25 4.2	12.332	20	16 12 17.51	2.2792	21 7 6.3	8.917
21	14 32 37.15	1.9775	12 37 22.3	12.291	21	16 14 34.47	2.2869	21 15 58.2	8.812
22	14 34 35.96	1.9827	12 49 37.9	12.238	22	16 16 51.86	2.2933	21 24 43.7	8.704
23	14 36 35.08	1.9880	S. 13 1 50.9	12.194	23	16 19 9.67	2.3003	S. 21 33 22.7	8.596
THURSDAY 18.					SATURDAY 20.				
0	14 38 34.52	1.9934	S. 13 14 1.2	12.149	0	16 21 27.90	2.3074	S. 21 41 55.2	8.487
1	14 40 34.29	1.9989	13 26 8.8	12.104	1	16 23 46.56	2.3145	21 50 21.1	8.375
2	14 42 34.39	2.0043	13 38 13.7	12.057	2	16 26 5.64	2.3216	21 58 40.2	8.262
3	14 44 34.81	2.0098	13 50 15.7	12.009	3	16 28 25.15	2.3287	22 6 52.5	8.148
4	14 46 35.57	2.0155	14 2 14.8	11.960	4	16 30 45.08	2.3356	22 14 57.9	8.033
5	14 48 36.68	2.0213	14 14 10.9	11.909	5	16 33 5.42	2.3425	22 22 56.4	7.915
6	14 50 38.13	2.0271	14 26 3.9	11.857	6	16 35 26.18	2.3495	22 30 47.7	7.795
7	14 52 39.93	2.0329	14 37 53.8	11.805	7	16 37 47.36	2.3564	22 38 31.8	7.675
8	14 54 42.08	2.0387	14 49 40.5	11.751	8	16 40 8.95	2.3633	22 46 8.7	7.553
9	14 56 44.58	2.0447	15 1 23.9	11.696	9	16 42 30.96	2.3702	22 53 38.2	7.430
10	14 58 47.44	2.0507	15 13 4.0	11.639	10	16 44 53.38	2.3771	23 1 0.3	7.306
11	15 0 50.66	2.0567	15 24 40.6	11.581	11	16 47 16.21	2.3838	23 8 14.9	7.179
12	15 2 54.25	2.0628	15 36 13.7	11.522	12	16 49 39.44	2.3906	23 15 21.8	7.051
13	15 4 58.20	2.0689	15 47 43.2	11.462	13	16 52 3.08	2.3973	23 22 21.0	6.922
14	15 7 2.52	2.0752	15 59 9.1	11.401	14	16 54 27.12	2.4039	23 29 12.4	6.792
15	15 9 7.22	2.0815	16 10 31.3	11.338	15	16 56 51.55	2.4105	23 35 56.0	6.660
16	15 11 12.30	2.0878	16 21 49.7	11.274	16	16 59 16.38	2.4171	23 42 31.6	6.527
17	15 13 17.76	2.0942	16 33 4.2	11.208	17	17 1 41.60	2.4236	23 48 59.2	6.391
18	15 15 23.60	2.1006	16 44 14.7	11.142	18	17 4 7.21	2.4301	23 55 18.6	6.254
19	15 17 29.83	2.1071	16 55 21.2	11.074	19	17 6 33.21	2.4364	24 1 29.7	6.117
20	15 19 36.45	2.1135	17 6 23.6	11.004	20	17 8 59.58	2.4427	24 7 32.6	5.978
21	15 21 43.45	2.1200	17 17 21.7	10.933	21	17 11 26.33	2.4489	24 13 27.1	5.837
22	15 23 50.85	2.1267	17 28 15.5	10.861	22	17 13 53.45	2.4551	24 19 13.1	5.696
23	15 25 58.65	2.1333	17 39 5.0	10.788	23	17 16 20.94	2.4612	24 24 50.6	5.552
24	15 28 6.85	2.1400	S. 17 49 50.1	10.713	24	17 18 48.79	2.4672	S. 24 30 19.4	5.407

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 21.					TUESDAY 23.				
0	17 18 48.79	2.4672	S. 24 30 19.4	5.407	0	19 22 1.68	2.6142	S. 25 43 34.9	2.613
1	17 21 17.00	2.4732	24 35 39.5	5.962	1	19 24 38.52	2.6137	25 40 52.8	2.790
2	17 23 45.57	2.4790	24 40 50.8	5.115	2	19 27 15.32	2.6130	25 38 0.1	2.967
3	17 26 14.48	2.4847	24 45 53.3	4.967	3	19 29 52.08	2.6122	25 34 56.8	3.143
4	17 28 43.73	2.4903	24 50 46.8	4.817	4	19 32 28.79	2.6112	25 31 43.0	3.318
5	17 31 13.32	2.4959	24 55 31.3	4.665	5	19 35 5.43	2.6101	25 28 18.7	3.493
6	17 33 43.24	2.5014	25 0 6.6	4.513	6	19 37 42.00	2.6088	25 24 43.8	3.668
7	17 36 13.49	2.5067	25 4 32.8	4.360	7	19 40 18.49	2.6074	25 20 58.5	3.843
8	17 38 44.05	2.5119	25 8 49.8	4.205	8	19 42 54.89	2.6059	25 17 2.7	4.017
9	17 41 14.92	2.5171	25 12 57.4	4.049	9	19 45 31.20	2.6042	25 12 56.5	4.190
10	17 43 46.10	2.5222	25 16 55.7	3.893	10	19 48 7.40	2.6023	25 8 39.9	4.362
11	17 46 17.59	2.5272	25 20 44.6	3.735	11	19 50 43.48	2.6003	25 4 13.0	4.535
12	17 48 49.37	2.5320	25 24 23.9	3.575	12	19 53 19.44	2.5982	24 59 35.7	4.707
13	17 51 21.43	2.5367	25 27 53.6	3.415	13	19 55 55.27	2.5960	24 54 48.1	4.878
14	17 53 53.78	2.5414	25 31 13.7	3.255	14	19 58 30.96	2.5937	24 49 50.3	5.048
15	17 56 26.40	2.5458	25 34 24.2	3.093	15	20 1 6.51	2.5912	24 44 42.3	5.218
16	17 58 59.28	2.5502	25 37 24.9	2.929	16	20 3 41.90	2.5885	24 39 24.1	5.387
17	18 1 32.42	2.5544	25 40 15.7	2.764	17	20 6 17.13	2.5857	24 33 55.8	5.555
18	18 4 5.81	2.5585	25 42 56.6	2.599	18	20 8 52.19	2.5828	24 28 17.5	5.722
19	18 6 39.44	2.5625	25 45 27.6	2.434	19	20 11 27.07	2.5798	24 22 29.2	5.888
20	18 9 13.31	2.5663	25 47 48.7	2.267	20	20 14 1.77	2.5767	24 16 30.9	6.055
21	18 11 47.40	2.5700	25 49 59.7	2.099	21	20 16 36.28	2.5735	24 10 22.6	6.221
22	18 14 21.71	2.5736	25 52 0.6	1.931	22	20 19 10.59	2.5701	24 4 4.4	6.384
23	18 16 56.23	2.5771	S. 25 53 51.4	1.762	23	20 21 44.69	2.5667	S. 23 57 36.5	6.546
MONDAY 22.					WEDNESDAY 24.				
0	18 19 30.96	2.5804	S. 25 55 32.0	1.592	0	20 24 18.59	2.5639	S. 23 50 58.9	6.708
1	18 22 5.88	2.5835	25 57 2.4	1.421	1	20 26 52.27	2.5595	23 44 11.6	6.869
2	18 24 40.98	2.5865	25 58 22.5	1.250	2	20 29 25.73	2.5557	23 37 14.6	7.029
3	18 27 16.26	2.5894	25 59 32.4	1.078	3	20 31 58.95	2.5518	23 30 8.1	7.187
4	18 29 51.71	2.5921	26 0 31.9	0.906	4	20 34 31.94	2.5478	23 22 52.1	7.345
5	18 32 27.31	2.5946	26 1 21.1	0.733	5	20 37 4.69	2.5437	23 15 26.7	7.501
6	18 35 3.06	2.5970	26 1 59.9	0.559	6	20 39 37.19	2.5396	23 7 52.0	7.656
7	18 37 38.95	2.5992	26 2 28.2	0.385	7	20 42 9.44	2.5354	23 0 8.0	7.810
8	18 40 14.97	2.6014	26 2 46.1	0.211	8	20 44 41.43	2.5311	22 52 14.8	7.963
9	18 42 51.12	2.6034	26 2 53.5	- 0.036	9	20 47 13.17	2.5267	22 44 12.4	8.115
10	18 45 27.38	2.6052	26 2 50.4	+ 0.140	10	20 49 44.64	2.5222	22 36 1.0	8.265
11	18 48 3.74	2.6068	26 2 36.7	0.316	11	20 52 15.83	2.5176	22 27 40.6	8.414
12	18 50 40.20	2.6083	26 2 12.5	0.492	12	20 54 46.75	2.5130	22 19 11.3	8.562
13	18 53 16.74	2.6097	26 1 37.7	0.668	13	20 57 17.39	2.5083	22 10 33.2	8.708
14	18 55 53.36	2.6109	26 0 52.3	0.844	14	20 59 47.74	2.5035	22 1 46.3	8.853
15	18 58 30.05	2.6119	25 59 56.4	1.021	15	21 2 17.81	2.4987	21 52 50.8	8.996
16	19 1 6.79	2.6127	25 58 49.8	1.198	16	21 4 47.59	2.4938	21 43 46.8	9.138
17	19 3 43.58	2.6135	25 57 32.6	1.375	17	21 7 17.07	2.4889	21 34 34.2	9.280
18	19 6 20.41	2.6141	25 56 4.8	1.552	18	21 9 46.26	2.4840	21 25 13.2	9.419
19	19 8 57.27	2.6145	25 54 26.4	1.729	19	21 12 15.15	2.4789	21 15 43.9	9.557
20	19 11 34.15	2.6147	25 52 37.3	1.906	20	21 14 43.73	2.4738	21 6 6.4	9.693
21	19 14 11.04	2.6148	25 50 37.6	2.083	21	21 17 12.00	2.4687	20 56 20.7	9.829
22	19 16 47.93	2.6147	25 48 27.3	2.260	22	21 19 39.97	2.4636	20 46 26.9	9.962
23	19 19 24.81	2.6146	25 46 6.4	2.437	23	21 22 7.63	2.4583	20 36 25.2	10.094
24	19 22 1.68	2.6142	S. 25 43 34.9	2.613	24	21 24 34.97	2.4531	S. 20 26 15.6	10.225

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 25.					SATURDAY 27.				
0	h m s	s	S. 20 26' 15.6"	10.925	0	h m s	s	S. 10 15' 29.6"	14.597
1	21 24 34.97	2.4531	20 15 58.2	10.354	1	23 16 17.60	2.2121	10 0 52.2	14.648
2	21 27 2.00	2.4478	20 5 33.1	10.469	2	23 18 30.20	2.2081	9 46 11.8	14.697
3	21 29 28.71	2.4425	19 55 0.4	10.608	3	23 20 42.57	2.2042	9 31 28.5	14.746
4	21 31 55.10	2.4379	19 44 20.2	10.739	4	23 22 54.71	2.2004	9 16 42.3	14.793
5	21 34 21.17	2.4318	19 33 32.6	10.854	5	23 25 6.62	2.1967	9 1 53.3	14.838
6	21 36 46.92	2.4265	19 22 37.7	10.976	6	23 27 18.31	2.1929	8 47 1.7	14.889
7	21 39 12.35	2.4212	19 11 35.5	11.096	7	23 29 29.77	2.1892	8 32 7.5	14.934
8	21 41 37.46	2.4158	19 0 26.2	11.213	8	23 31 41.02	2.1857	8 17 10.8	14.964
9	21 44 2.24	2.4103	18 49 9.9	11.329	9	23 33 52.06	2.1822	8 2 11.8	15.003
10	21 46 26.70	2.4049	18 37 46.7	11.444	10	23 36 2.88	2.1787	7 47 10.5	15.041
11	21 48 50.83	2.3995	18 26 16.6	11.558	11	23 38 13.50	2.1754	7 32 6.9	15.077
12	21 51 14.64	2.3941	18 14 39.7	11.670	12	23 40 23.93	2.1729	7 17 1.2	15.119
13	21 53 38.12	2.3887	18 2 56.2	11.780	13	23 42 34.17	2.1690	7 1 53.5	15.144
14	21 56 1.28	2.3832	17 51 6.1	11.888	14	23 44 44.21	2.1658	6 46 43.9	15.176
15	21 58 24.11	2.3778	17 39 9.6	11.995	15	23 46 54.07	2.1628	6 31 32.4	15.207
16	22 0 46.62	2.3724	17 27 6.7	12.100	16	23 49 3.75	2.1599	6 16 19.1	15.235
17	22 3 8.80	2.3670	17 14 57.6	12.203	17	23 51 13.26	2.1570	6 1 4.2	15.261
18	22 5 30.66	2.3617	17 2 42.3	12.305	18	23 53 22.59	2.1541	5 45 47.8	15.286
19	22 7 52.20	2.3563	16 50 21.0	12.405	19	23 55 31.75	2.1513	5 30 29.9	15.311
20	22 10 13.42	2.3510	16 37 53.7	12.504	20	23 57 40.75	2.1487	5 15 10.5	15.334
21	22 12 34.32	2.3456	16 25 20.5	12.601	21	23 59 49.60	2.1462	4 59 49.8	15.355
22	22 14 54.89	2.3403	16 12 41.6	12.696	22	0 1 58.29	2.1436	4 44 27.9	15.374
23	22 17 15.15	2.3350	S. 15 59 57.0	12.790	23	0 4 6.83	2.1419	S. 4 29 4.9	15.393
24	22 19 35.09	2.3296				0 6 15.23	2.1389		
FRIDAY 26.					SUNDAY 28.				
0	22 21 54.72	2.3246	S. 15 47 6.8	12.889	0	0 8 23.50	2.1367	S. 4 13 40.8	15.410
1	22 24 14.04	2.3194	15 34 11.2	12.979	1	0 10 31.63	2.1344	3 58 15.7	15.425
2	22 26 33.05	2.3142	15 21 10.2	13.061	2	0 12 39.63	2.1322	3 42 49.8	15.438
3	22 28 51.74	2.3090	15 8 3.9	13.146	3	0 14 47.50	2.1309	3 27 23.1	15.451
4	22 31 10.13	2.3039	14 54 52.5	13.233	4	0 16 55.26	2.1283	3 11 55.6	15.463
5	22 33 28.21	2.2988	14 41 36.0	13.317	5	0 19 2.90	2.1264	2 56 27.5	15.473
6	22 35 45.99	2.2938	14 28 14.5	13.398	6	0 21 10.43	2.1246	2 40 58.9	15.481
7	22 38 3.47	2.2889	14 14 48.2	13.478	7	0 23 17.85	2.1229	2 25 29.8	15.488
8	22 40 20.66	2.2840	14 1 17.1	13.557	8	0 25 25.18	2.1213	2 10 0.3	15.493
9	22 42 37.55	2.2791	13 47 41.3	13.635	9	0 27 32.41	2.1197	1 54 30.6	15.497
10	22 44 54.15	2.2743	13 34 0.9	13.711	10	0 29 39.55	2.1183	1 39 0.7	15.500
11	22 47 10.46	2.2694	13 20 16.0	13.784	11	0 31 46.61	2.1169	1 23 30.6	15.502
12	22 49 26.48	2.2647	13 6 26.8	13.856	12	0 33 53.58	2.1156	1 8 0.5	15.502
13	22 51 42.22	2.2600	12 52 33.3	13.927	13	0 36 0.48	2.1144	0 52 30.4	15.501
14	22 53 57.68	2.2553	12 38 35.6	13.996	14	0 38 7.31	2.1132	0 37 0.4	15.498
15	22 56 12.86	2.2507	12 24 33.8	14.063	15	0 40 14.07	2.1122	0 21 30.7	15.493
16	22 58 27.77	2.2462	12 10 28.0	14.129	16	0 42 20.77	2.1112	S. 0 6 1.3	15.488
17	23 0 42.41	2.2417	11 56 18.3	14.192	17	0 44 27.41	2.1103	N. 0 9 27.8	15.489
18	23 2 56.78	2.2372	11 42 4.9	14.254	18	0 46 34.00	2.1095	0 24 56.5	15.473
19	23 5 10.88	2.2329	11 27 47.8	14.316	19	0 48 40.55	2.1088	0 40 24.6	15.463
20	23 7 24.73	2.2287	11 13 27.0	14.376	20	0 50 47.06	2.1081	0 55 52.1	15.452
21	23 9 38.32	2.2244	10 59 2.6	14.434	21	0 52 53.52	2.1074	1 11 18.9	15.440
22	23 11 51.66	2.2203	10 44 34.9	14.489	22	0 54 59.95	2.1070	1 26 44.9	15.427
23	23 14 4.75	2.2162	10 30 3.9	14.544	23	0 57 6.36	2.1066	1 42 10.1	15.412
24	23 16 17.60	2.2121	S. 10 15 29.6	14.587	24	0 59 12.74	2.1062	N. 1 57 34.3	15.395

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 29.					WEDNESDAY, JULY 1.				
0	^h 0 ^m 59 ^s 12.74	2.1069	N. 1° 57' 34.3"	15.395	0	^h 2 ^m 41 ^s 19.23	2.1736	N. 13° 33' 17.9"	13.106
1	1 1 19.10	2.1059	2 12 57.5	15.377					
2	1 3 25.45	2.1058	2 28 19.6	15.359					
3	1 5 31.80	2.1057	2 43 40.6	15.339					
4	1 7 38.14	2.1057	2 59 0.3	15.317					
5	1 9 44.48	2.1057	3 14 18.7	15.295					
6	1 11 50.83	2.1058	3 29 35.7	15.271					
7	1 13 57.18	2.1060	3 44 51.2	15.245					
8	1 16 3.55	2.1063	4 0 5.1	15.218					
9	1 18 9.94	2.1067	4 15 17.4	15.191					
10	1 20 16.35	2.1071	4 30 28.0	15.162					
11	1 22 22.79	2.1077	4 45 36.8	15.130					
12	1 24 29.27	2.1083	5 0 43.6	15.096					
13	1 26 35.79	2.1090	5 15 48.5	15.065					
14	1 28 42.35	2.1097	5 30 51.4	15.031					
15	1 30 48.95	2.1104	5 45 52.2	14.995					
16	1 32 55.60	2.1112	6 0 50.8	14.958					
17	1 35 2.30	2.1120	6 15 47.2	14.920					
18	1 37 9.06	2.1133	6 30 41.2	14.880					
19	1 39 15.89	2.1144	6 45 32.8	14.839					
20	1 41 22.79	2.1155	7 0 21.9	14.797					
21	1 43 29.75	2.1167	7 15 8.4	14.753					
22	1 45 36.79	2.1181	7 29 52.3	14.709					
23	1 47 43.92	2.1195	N. 7 44 33.5	14.663					
TUESDAY 30.					PHASES OF THE MOON.				
0	1 49 51.13	2.1209	N. 7 59 11.9	14.616	● New Moon . . . June	d	h	m	
1	1 51 58.43	2.1204	8 13 47.4	14.567	☾ First Quarter . . .	14	0	33.9	
2	1 54 5.82	2.1209	8 28 20.0	14.517	○ Full Moon	21	17	12.1	
3	1 56 13.30	2.1256	8 42 49.5	14.466	☾ Last Quarter	28	11	15.9	
4	1 58 20.89	2.1273	8 57 15.9	14.414					
5	2 0 28.58	2.1291	9 11 39.2	14.361					
6	2 2 36.38	2.1309	9 25 59.2	14.305					
7	2 4 44.29	2.1328	9 40 15.8	14.249					
8	2 6 52.32	2.1348	9 54 29.1	14.199					
9	2 9 0.47	2.1368	10 8 38.9	14.134					
10	2 11 8.74	2.1388	10 22 45.2	14.074					
11	2 13 17.13	2.1409	10 36 47.8	14.018					
12	2 15 25.65	2.1439	10 50 46.7	13.950					
13	2 17 34.31	2.1454	11 4 41.8	13.887					
14	2 19 43.10	2.1477	11 18 33.1	13.823					
15	2 21 52.03	2.1501	11 32 20.5	13.757					
16	2 24 1.11	2.1525	11 46 3.9	13.689					
17	2 26 10.33	2.1549	11 59 43.2	13.620					
18	2 28 19.70	2.1574	12 13 18.3	13.550					
19	2 30 29.22	2.1600	12 26 49.2	13.479					
20	2 32 38.90	2.1627	12 40 15.8	13.407					
21	2 34 48.74	2.1653	12 53 38.1	13.334					
22	2 36 58.74	2.1680	13 6 55.9	13.259					
23	2 39 8.90	2.1708	13 20 9.2	13.183					
24	2 41 19.23	2.1736	N. 13 33 17.9	13.106					

● New Moon . . . June 6 4 26.2
 ☾ First Quarter . . . 14 0 33.9
 ○ Full Moon 21 17 12.1
 ☾ Last Quarter 28 11 15.9

☾ Apogee. . . . June 13 12.0
 ☾ Perigee. 25 16.8

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Antares W.	114° 35' 55"	2291	116° 22' 7"	2293	118° 8' 17"	2294	119° 54' 25"	2296
	α Aquilæ W.	69 22 15	3198	70 48 26	3180	72 14 59	3163	73 41 53	3148
	Fomalhaut W.	34 22 19	2831	35 56 7	2786	37 30 53	2747	39 6 30	2713
	VENUS E.	38 26 22	2659	36 48 47	2660	35 11 14	2661	33 33 42	2663
	SUN E.	67 19 9	2579	65 39 45	2580	64 0 22	2581	62 21 1	2582
2	α Aquilæ W.	81 0 7	3101	82 28 16	3096	83 56 30	3094	85 24 47	3093
	Fomalhaut W.	47 13 59	2802	48 52 51	2588	50 32 2	2576	52 11 30	2566
	α Pegasi W.	34 22 12	2891	35 35 41	2756	36 51 29	2641	38 9 19	2541
	SUN E.	54 4 43	2591	52 25 36	2593	50 46 32	2596	49 7 32	2600
3	α Aquilæ W.	92 45 54	3110	94 13 51	3119	95 41 38	3129	97 9 13	3139
	Fomalhaut W.	60 31 41	2835	62 12 5	2833	63 52 32	2831	65 33 2	2831
	α Pegasi W.	45 2 10	3197	46 28 23	3159	47 55 30	3111	49 23 26	3076
	SUN E.	40 53 46	2620	39 15 18	2625	37 36 57	2630	35 58 43	2635
4	α Aquilæ W.	104 23 5	3222	105 48 48	3243	107 14 6	3268	108 38 55	3294
	Fomalhaut W.	73 55 18	2840	75 35 35	2844	77 15 47	2849	78 55 52	2854
	α Pegasi W.	56 52 21	2955	58 23 30	2940	59 54 58	2927	61 26 42	2917
	SUN E.	27 49 35	2669	26 12 13	2677	24 35 2	2684	22 58 1	2693
7	SUN W.	10 13 39	2939	11 45 9	2950	13 16 25	2961	14 47 27	2972
	Regulus E.	61 51 7	2617	60 12 35	2631	58 34 22	2644	56 56 27	2657
	Spica E.	115 54 19	2694	114 15 56	2635	112 37 49	2647	110 59 58	2660
8	SUN W.	22 18 46	3038	23 48 12	3051	25 17 22	3065	26 46 14	3079
	Regulus E.	48 51 27	2727	47 15 23	2742	45 39 39	2756	44 4 14	2772
	Spica E.	102 54 54	2732	101 18 44	2735	99 42 51	2748	98 7 15	2760
9	SUN W.	34 6 24	3147	35 33 37	3160	37 0 34	3174	38 27 14	3187
	Regulus E.	36 12 7	2646	34 38 41	2664	33 5 36	2680	31 32 52	2698
	Spica E.	90 13 25	2694	88 39 28	2637	87 5 48	2649	85 32 24	2662
10	SUN W.	45 36 47	3249	47 1 58	3261	48 26 55	3273	49 51 38	3284
	Pollux W.	13 7 20	2985	14 37 51	2985	16 8 22	2985	17 38 53	2988
	Spica E.	77 49 17	2920	76 17 24	2939	74 45 46	2942	73 14 21	2954
	Antares E.	123 43 28	2916	122 11 29	2926	120 39 43	2936	119 8 10	2946
11	SUN W.	56 52 4	3336	58 15 34	3345	59 38 54	3354	61 2 3	3362
	Pollux W.	25 10 30	3008	26 40 33	3013	28 10 30	3018	29 40 20	3023
	Spica E.	65 40 36	3004	64 10 28	3013	62 40 31	3022	61 10 45	3030
	Antares E.	111 33 28	2992	110 3 5	3001	108 32 53	3008	107 2 50	3016
12	SUN W.	67 55 34	3398	69 17 53	3404	70 40 5	3409	72 2 11	3415
	Pollux W.	37 7 50	3050	38 37 1	3055	40 6 6	3059	41 35 6	3062
	Spica E.	53 44 28	3069	52 15 40	3075	50 47 0	3082	49 18 28	3088
	Antares E.	99 34 49	3048	98 5 36	3053	96 36 29	3058	95 7 28	3062
13	SUN W.	78 51 30	3431	80 13 12	3433	81 34 51	3434	82 56 29	3435
	Pollux W.	48 59 8	3075	50 27 48	3076	51 56 27	3078	53 25 4	3078
	Spica E.	41 57 33	3114	40 29 41	3119	39 1 54	3124	37 34 13	3129
	Antares E.	87 43 33	3078	86 14 56	3080	84 46 22	3081	83 17 49	3082

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Antares W.	121° 40' 30"	2298	123° 26' 33"	2300	125° 12' 32"	2302	126° 58' 28"	2305
	α Aquilæ W.	75 9 5	3135	76 36 32	3124	78 4 13	3114	79 32 5	3106
	Fomalhaut W.	40 42 52	2685	42 19 52	2660	43 57 26	2638	45 35 30	2619
	Venus E.	31 56 12	2663	30 18 43	2666	28 41 17	2667	27 3 53	2669
	Sun E.	60 41 41	2583	59 2 23	2585	57 23 7	2587	55 43 54	2588
2	α Aquilæ W.	86 53 5	3093	88 21 23	3096	89 49 38	3099	91 17 49	3104
	Fomalhaut W.	53 51 12	2557	55 31 6	2550	57 11 10	2544	58 51 22	2539
	α Pegasi W.	39 28 58	3454	40 50 14	3376	42 12 58	3309	43 36 59	3249
	Sun E.	47 28 37	2603	45 49 46	2607	44 11 0	2611	42 32 20	2615
3	α Aquilæ W.	98 36 35	3153	100 3 41	3168	101 30 29	3183	102 56 58	3202
	Fomalhaut W.	67 13 32	2531	68 54 2	2533	70 34 30	2534	72 14 56	2537
	α Pegasi W.	50 52 5	3045	52 21 22	3018	53 51 13	2993	55 21 34	2973
	Sun E.	34 20 36	2641	32 42 37	2648	31 4 47	2655	29 27 6	2662
4	α Aquilæ W.	110 3 14	3322	111 27 0	3353	112 50 10	3386	114 12 42	3422
	Fomalhaut W.	80 35 50	2580	82 15 40	2567	83 55 20	2574	85 34 50	2582
	α Pegasi W.	62 58 39	2909	64 30 47	2901	66 3 4	2897	67 35 27	2892
	Sun E.	21 21 12	2702	19 44 35	2711	18 8 10	2721	16 31 58	2733
7	Sun W.	16 18 15	2985	17 48 47	2997	19 19 3	3010	20 49 3	3024
	Regulus E.	55 18 50	2671	53 41 31	2685	52 4 31	2699	50 27 50	2713
	Spica E.	109 22 24	2672	107 45 6	2684	106 8 5	2697	104 31 21	2710
8	Sun W.	28 14 49	3083	29 43 7	3106	31 11 9	3119	32 38 55	3133
	Regulus E.	42 29 9	2787	40 54 24	2801	39 19 58	2818	37 45 53	2832
	Spica E.	96 31 55	2774	94 56 53	2786	93 22 7	2799	91 47 38	2811
9	Sun W.	39 53 39	2900	41 19 48	2913	42 45 42	2925	44 11 22	2937
	Regulus E.	30 0 31	2916	28 28 33	2935	26 56 59	2954	25 25 49	2974
	Spica E.	83 59 16	2873	82 26 23	2886	80 53 46	2898	79 21 24	2909
10	Sun W.	51 16 8	2995	52 40 25	3006	54 4 30	3016	55 28 23	3026
	Pollux W.	19 9 21	2990	20 39 46	2994	22 10 6	2998	23 40 21	3003
	Spica E.	71 43 10	2964	70 12 12	2975	68 41 28	2985	67 10 56	2994
	Antares E.	117 36 50	2956	116 5 42	2965	114 34 46	2974	113 4 1	2984
11	Sun W.	62 25 3	3371	63 47 53	3378	65 10 35	3386	66 33 8	3392
	Pollux W.	31 10 4	3030	32 39 40	3034	34 9 10	3040	35 38 33	3045
	Spica E.	59 41 10	3039	58 11 45	3047	56 42 30	3054	55 13 24	3062
	Antares E.	105 32 57	3023	104 3 13	3030	102 33 37	3036	101 4 9	3043
12	Sun W.	73 24 11	3418	74 46 7	3423	76 7 58	3426	77 29 45	3428
	Pollux W.	43 4 2	3066	44 32 53	3069	46 1 41	3071	47 30 26	3073
	Spica E.	47 50 4	3094	46 21 47	3099	44 53 36	3104	43 25 31	3110
	Antares E.	93 38 32	3066	92 9 41	3070	90 40 55	3073	89 12 12	3076
13	Sun W.	84 18 6	3436	85 39 42	3435	87 1 19	3434	88 22 57	3433
	Pollux W.	54 53 41	3078	56 22 18	3077	57 50 56	3076	59 19 35	3075
	Spica E.	36 6 38	3133	34 39 8	3138	33 11 44	3142	31 44 25	3148
	Antares E.	81 49 17	3082	80 20 46	3082	78 52 14	3082	77 23 42	3080

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
14	Sun W.	89° 44' 36"	3431	91° 6' 17"	3429	92° 28' 1"	3428	93° 49' 48"	3423
	Pollux W.	60 48 15	3073	62 16 58	3070	63 45 44	3068	65 14 33	3065
	Regulus W.	24 54 49	3147	26 22 2	3137	27 49 27	3136	29 17 3	3119
	Spica E.	30 17 13	3153	28 50 8	3159	27 23 10	3167	25 56 21	3176
	Antares E.	75 55 8	3078	74 26 32	3077	72 57 54	3074	71 29 13	3072
15	Sun W.	100 39 53	3396	102 2 12	3392	103 24 38	3385	104 47 12	3377
	Pollux W.	72 39 51	3041	74 9 13	3034	75 38 43	3028	77 8 21	3022
	Regulus W.	36 37 43	3076	38 6 22	3067	39 35 12	3059	41 4 12	3049
	Antares E.	64 4 44	3050	62 35 33	3044	61 6 15	3039	59 36 50	3032
	α Aquilæ E.	109 34 29	3942	108 21 52	3921	107 8 54	3901	105 55 35	3881
16	Sun W.	111 42 20	3333	113 5 53	3394	114 29 37	3313	115 53 34	3302
	Pollux W.	84 38 49	2980	86 9 27	2971	87 40 16	2961	89 11 18	2951
	Regulus W.	48 32 7	3001	50 2 19	2990	51 32 44	2980	53 3 22	2969
	Antares E.	52 7 36	2994	50 37 16	2986	49 6 46	2977	47 36 5	2968
	α Aquilæ E.	99 44 9	3792	98 28 58	3776	97 13 31	3761	95 57 48	3746
17	Sun W.	122 56 36	3942	124 21 55	3929	125 47 30	3916	127 13 20	3903
	Pollux W.	96 49 46	2985	98 22 11	2983	99 54 51	2971	101 27 47	2958
	Regulus W.	60 40 9	2909	62 12 16	2906	63 44 40	2903	65 17 20	2871
	Antares E.	39 59 43	2990	38 27 50	2910	36 55 44	2900	35 23 25	2890
	α Aquilæ E.	89 35 33	3682	88 18 27	3671	87 1 9	3661	85 43 40	3651
	Fomalhaut E.	122 7 58	3125	120 40 19	3105	119 12 16	3087	117 43 50	3068
18	Pollux W.	109 16 38	2792	110 51 16	2778	112 26 13	2764	114 1 28	2750
	Regulus W.	73 4 57	2902	74 39 22	2788	76 14 6	2773	77 49 9	2760
	Spica W.	19 31 27	2966	21 2 22	2928	22 34 5	2904	24 6 31	2865
	α Aquilæ E.	79 14 1	3617	77 55 45	3612	76 37 24	3610	75 19 1	3609
	Fomalhaut E.	110 15 58	2977	108 45 16	2960	107 14 13	2948	105 42 48	2923
19	Regulus W.	85 49 8	2687	87 26 6	2672	89 3 24	2657	90 41 2	2642
	Spica W.	31 57 26	2744	33 33 8	2722	35 9 18	2703	36 45 54	2684
	α Aquilæ E.	68 47 7	3623	67 28 57	3630	66 10 55	3640	64 53 4	3653
	Fomalhaut E.	98 0 22	2843	96 26 50	2898	94 52 58	2812	93 18 46	2797
	α Pegasi E.	115 44 37	3178	114 18 2	3151	112 50 54	3124	111 23 14	3099
20	Regulus W.	98 54 8	2571	100 33 43	2556	102 13 38	2543	103 53 52	2529
	Spica W.	44 55 3	2596	46 34 3	2580	48 13 26	2564	49 53 11	2548
	α Aquilæ E.	58 28 14	3761	57 12 31	3793	55 57 22	3830	54 42 51	3873
	Fomalhaut E.	85 22 55	2726	83 46 50	2713	82 10 27	2701	80 33 48	2688
	α Pegasi E.	103 57 33	2987	102 27 4	2967	100 56 10	2948	99 24 52	2931
21	Regulus W.	112 19 40	2465	114 1 43	2452	115 44 4	2441	117 26 41	2429
	Spica W.	58 17 12	2475	59 59 0	2462	61 41 7	2448	63 23 33	2436
	Fomalhaut E.	72 26 41	2636	70 48 35	2627	69 10 17	2619	67 31 48	2612
	α Pegasi E.	91 43 4	2854	90 9 46	2841	88 36 11	2829	87 2 21	2819
22	Spica W.	72 0 4	2378	73 44 11	2367	75 28 33	2357	77 13 10	2348
	Antares W.	26 10 5	2414	27 53 20	2397	29 36 59	2382	31 20 59	2368
	Fomalhaut E.	59 17 27	2592	57 38 21	2591	55 59 14	2592	54 20 8	2594
	α Pegasi E.	79 10 9	2780	77 35 15	2776	76 0 16	2772	74 25 12	2771

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	SUN W.	95 11 39	3418	96 33 35	3415	97 55 35	3409	99 17 41	3404
	Pollux W.	66 43 26	3060	68 12 24	3056	69 41 27	3052	71 10 36	3047
	Regulus W.	30 44 50	3110	32 12 48	3101	33 40 56	3093	35 9 14	3084
	Spica E.	24 29 43	3186	26 3 17	3199	21 37 7	3215	20 11 16	3236
	Antares E.	70 0 29	3068	68 31 40	3065	67 2 47	3060	65 33 48	3056
15	SUN W.	106 9 55	3369	107 32 47	3361	108 55 48	3352	110 18 59	3344
	Pollux W.	78 38 7	3014	80 8 3	3006	81 38 8	2998	83 8 23	2989
	Regulus W.	42 33 24	3040	44 2 47	3031	45 32 21	3021	47 2 8	3011
	Antares E.	58 7 17	3025	56 37 35	3018	55 7 45	3010	53 37 45	3003
	α Aquilæ E.	104 41 56	3361	103 27 57	3343	102 13 39	3325	100 59 3	3308
16	SUN W.	117 17 43	3390	118 42 6	3379	120 6 42	3367	121 31 32	3355
	Pollux W.	90 42 32	2940	92 14 0	2930	93 45 41	2919	95 17 36	2907
	Regulus W.	54 34 14	2958	56 5 20	2946	57 36 41	2934	59 8 17	2921
	Antares E.	46 5 12	2959	44 34 8	2950	43 2 52	2940	41 31 24	2930
	α Aquilæ E.	94 41 49	3732	93 25 36	3718	92 9 8	3706	90 52 27	3693
17	SUN W.	128 39 26	3188	130 5 49	3175	131 32 28	3161	132 59 24	3146
	Pollux W.	103 1 0	2845	104 34 29	2833	106 8 14	2819	107 42 17	2805
	Regulus W.	66 50 16	2857	68 23 30	2844	69 57 1	2830	71 30 50	2816
	Antares E.	33 50 53	2880	32 18 8	2871	30 45 12	2862	29 12 5	2854
	α Aquilæ E.	84 26 1	3343	83 8 13	3335	81 50 16	3328	80 32 12	3322
	Fomalhaut E.	116 15 1	3049	114 45 49	3030	113 16 14	3013	111 46 17	2995
18	Pollux W.	115 37 1	2736	117 12 53	2722	118 49 4	2707	120 25 34	2694
	Regulus W.	79 24 30	2745	81 0 10	2730	82 36 10	2716	84 12 29	2701
	Spica W.	25 39 35	2837	27 13 15	2811	28 47 28	2788	30 22 12	2765
	α Aquilæ E.	74 0 36	3309	72 42 11	3309	71 23 46	3311	70 5 24	3316
	Fomalhaut E.	104 11 1	2909	102 38 53	2891	101 6 23	2876	99 33 33	2859
19	Regulus W.	92 19 0	2627	93 57 18	2613	95 35 55	2599	97 14 52	2585
	Spica W.	38 22 55	2666	40 0 21	2647	41 38 12	2630	43 16 26	2613
	α Aquilæ E.	63 35 27	3368	62 18 6	3367	61 1 5	3709	59 44 27	3732
	Fomalhaut E.	91 44 14	2782	90 9 23	2767	88 34 12	2753	86 58 43	2739
	α Pegasi E.	109 55 3	3074	108 26 22	3052	106 57 13	3029	105 27 36	3008
20	Regulus W.	105 34 25	2516	107 15 16	2503	108 56 26	2489	110 37 54	2477
	Spica W.	51 33 18	2533	53 13 46	2518	54 54 34	2503	56 35 43	2489
	α Aquilæ E.	53 29 4	3390	52 16 5	3374	51 4 0	4036	49 52 56	4104
	Fomalhaut E.	78 56 52	2677	77 19 41	2666	75 42 15	2655	74 4 35	2645
	α Pegasi E.	97 53 12	2913	96 21 10	2897	94 48 47	2882	93 16 5	2867
21	Regulus W.	119 9 34	2418	120 52 43	2406	122 36 7	2397	124 19 46	2387
	Spica W.	65 6 17	2494	66 49 18	2411	68 32 37	2400	70 16 12	2388
	Fomalhaut E.	65 53 10	2607	64 14 24	2601	62 35 30	2597	60 56 31	2593
	α Pegasi E.	85 28 18	2809	83 54 2	2800	82 19 34	2792	80 44 56	2785
22	Spica W.	78 58 0	2338	80 43 4	2330	82 28 20	2321	84 13 49	2313
	Antares W.	33 5 19	2356	34 49 57	2344	36 34 53	2333	38 20 4	2322
	Fomalhaut E.	52 41 5	2599	51 2 8	2604	49 23 18	2612	47 44 39	2622
	α Pegasi E.	72 50 6	2770	71 14 59	2772	69 39 54	2774	68 4 52	2779

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
22	α Arietis E.	121° 41' 42"	2497	120° 0' 24"	2469	118° 18' 45"	2467	116° 36' 46"	2454
23	Spica W.	85 59 29	2306	87 45 20	2289	89 31 21	2293	91 17 32	2288
	Antares W.	40 5 31	2313	41 51 12	2304	43 37 5	2296	45 23 10	2289
	Fomalhaut E.	46 6 14	2635	44 28 7	2651	42 50 21	2670	41 13 1	2694
	α Pegasi E.	66 29 56	2785	64 55 8	2792	63 20 29	2801	61 46 3	2813
	α Arietis E.	108 2 31	2399	106 18 55	2390	104 35 6	2382	102 51 5	2373
24	Spica W.	100 10 28	2262	101 57 23	2280	103 44 22	2256	105 31 26	2253
	Antares W.	54 16 6	2259	56 3 6	2254	57 50 13	2251	59 37 25	2247
	α Pegasi E.	53 58 48	2919	52 26 45	2942	50 55 19	2975	49 24 35	3014
	α Arietis E.	94 8 29	2344	92 23 34	2341	90 38 34	2337	88 53 29	2335
	Aldebaran E.	124 44 54	2272	122 58 14	2268	121 11 27	2263	119 24 33	2260
25	Spica W.	114 27 30	2247	116 14 47	2248	118 2 3	2248	119 49 19	2249
	Antares W.	68 34 33	2236	70 22 7	2235	72 9 42	2235	73 57 18	2234
	α Arietis E.	80 7 21	2330	78 22 5	2331	76 36 50	2332	74 51 37	2333
	Aldebaran E.	110 28 54	2247	108 41 36	2246	106 54 17	2245	105 6 56	2245
	Sun E.	136 16 30	2527	134 35 54	2525	132 55 16	2525	131 14 38	2525
26	Antares W.	82 55 13	2239	84 42 43	2241	86 30 10	2241	88 17 34	2245
	α Aquilæ W.	45 44 59	4198	46 54 34	4019	48 5 55	3990	49 18 54	3832
	α Arietis E.	66 6 29	2352	64 21 45	2358	62 37 10	2364	60 52 44	2372
	Aldebaran E.	96 10 17	2249	94 23 2	2250	92 35 49	2253	90 48 40	2255
	Sun E.	122 51 31	2530	121 10 59	2531	119 30 29	2533	117 50 2	2536
27	Antares W.	97 13 35	2261	99 0 32	2264	100 47 24	2269	102 34 9	2273
	α Aquilæ W.	55 43 55	3507	57 4 11	3462	58 25 18	3419	59 47 13	3382
	α Arietis E.	52 13 35	2420	50 30 29	2433	48 47 42	2448	47 5 15	2463
	Aldebaran E.	81 53 55	2271	80 7 13	2275	78 20 37	2279	76 34 7	2284
	Sun E.	109 28 48	2552	107 48 47	2556	106 8 52	2561	104 29 3	2566
28	Antares W.	111 26 13	2298	113 12 15	2303	114 58 10	2309	116 43 56	2315
	α Aquilæ W.	66 46 11	3246	68 11 26	3226	69 37 4	3210	71 3 1	3197
	Fomalhaut W.	31 39 42	2942	33 11 8	2889	34 43 41	2843	36 17 13	2804
	Aldebaran E.	67 43 25	2310	65 57 40	2316	64 12 4	2322	62 26 36	2328
	Venus E.	74 7 36	2674	72 30 21	2680	70 53 14	2685	69 16 14	2691
	Sun E.	96 11 37	2591	94 32 29	2596	92 53 28	2601	91 14 35	2607
29	α Aquilæ W.	78 16 7	3155	79 43 10	3152	81 10 17	3150	82 37 26	3150
	Fomalhaut W.	44 15 24	2681	45 52 29	2666	47 29 54	2655	49 7 35	2645
	α Pegasi W.	32 10 33	4227	33 18 34	4059	34 29 16	3914	35 42 22	3790
	Aldebaran E.	53 41 39	2363	51 57 11	2370	50 12 53	2378	48 28 47	2386
	Venus E.	61 13 18	2723	59 37 9	2729	58 1 8	2736	56 25 16	2744
	Sun E.	83 2 11	2638	81 24 8	2645	79 46 14	2651	78 8 28	2658
30	α Aquilæ W.	89 52 43	3168	91 19 30	3177	92 46 7	3185	94 12 34	3196
	Fomalhaut W.	57 18 39	2617	58 57 11	2615	60 35 46	2614	62 14 22	2614
	α Pegasi W.	42 15 26	3372	43 38 15	3316	45 2 8	3268	46 26 57	3225
	Aldebaran E.	39 51 23	2433	38 8 36	2444	36 26 4	2456	34 43 49	2470
	Venus E.	48 28 18	2779	46 53 23	2787	45 18 38	2794	43 44 2	2802
	Sun E.	70 1 59	2683	68 25 10	2700	66 48 30	2707	65 12 0	2715

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
22	α Arietis E.	114° 54' 28"	9449	113° 11' 53"	9430	111° 29' 1"	9419	109° 45' 53"	9409
23	Spica W.	93 3 52	9381	94 50 20	9275	96 36 56	9270	98 23 39	9266
	Antares W.	47 9 26	9389	48 55 52	9275	50 42 28	9269	52 29 13	9264
	Fomalhaut E.	39 36 13	9798	38 0 2	9755	36 24 35	9795	34 50 0	9840
	α Pegasi E.	60 11 52	9898	58 38 0	9845	57 4 30	9884	55 31 25	9886
	α Arietis E.	101 6 52	9366	99 22 29	9300	97 37 57	9355	95 53 17	9349
24	Spica W.	107 18 34	9251	109 5 45	9250	110 52 58	9249	112 40 13	9247
	Antares W.	61 24 43	9243	63 12 6	9241	64 59 32	9239	66 47 1	9237
	α Pegasi E.	47 54 39	9057	46 25 37	9105	44 57 34	9161	43 30 38	9225
	α Arietis E.	87 8 20	9333	85 23 8	9331	83 37 53	9330	81 52 37	9330
	Aldebaran E.	117 37 34	9256	115 50 30	9253	114 3 21	9251	112 16 9	9249
25	Spica W.	121 36 33	9251	122 23 45	9253	125 10 54	9255	126 58 0	9258
	Antares W.	75 44 55	9235	77 32 31	9235	79 20 7	9236	81 7 41	9237
	α Arietis E.	73 6 26	9336	71 21 19	9339	69 36 17	9343	67 51 20	9347
	Aldebaran E.	103 19 35	9245	101 32 14	9245	99 44 54	9246	97 57 35	9247
	Sun E.	129 33 59	9595	127 53 20	9595	126 12 42	9597	124 32 6	9597
26	Antares W.	90 4 55	9247	91 52 12	9251	93 39 24	9253	95 26 32	9257
	α Aquilæ W.	50 33 23	9753	51 49 14	9681	53 6 21	9617	54 24 37	9580
	α Arietis E.	59 8 29	9380	57 24 25	9389	55 40 34	9398	53 56 57	9409
	Aldebaran E.	89 1 34	9358	87 14 32	9361	85 27 35	9364	83 40 42	9368
	Sun E.	116 9 39	9538	114 29 19	9542	112 49 4	9545	111 8 54	9548
27	Antares W.	104 20 48	9278	106 7 20	9283	107 53 45	9287	109 40 3	9293
	α Aquilæ W.	61 9 50	9347	62 33 7	9318	63 56 58	9391	65 21 20	9396
	α Arietis E.	45 23 10	9480	43 41 29	9499	42 0 15	9520	40 19 30	9543
	Aldebaran E.	74 47 44	9289	73 1 28	9294	71 15 19	9299	69 29 18	9304
	Sun E.	102 49 21	9570	101 9 45	9574	99 30 15	9580	97 50 52	9585
28	Antares W.	118 29 34	9391	120 15 3	9397	122 0 23	9333	123 45 34	9339
	α Aquilæ W.	72 29 14	9184	73 55 42	9175	75 22 21	9167	76 49 10	9160
	Fomalhaut W.	37 51 36	9771	39 26 42	9742	41 2 26	9719	42 38 41	9698
	Aldebaran E.	60 41 17	9335	58 56 8	9341	57 11 8	9348	55 26 18	9355
	Venus E.	67 39 22	9697	66 2 38	9704	64 26 3	9710	62 49 36	9716
	Sun E.	89 35 49	9613	87 57 12	9619	86 18 43	9626	84 40 23	9632
29	α Aquilæ W.	84 4 35	9151	85 31 43	9153	86 58 48	9157	88 25 49	9163
	Fomalhaut W.	50 45 29	9637	52 23 34	9629	54 1 49	9624	55 40 11	9620
	α Pegasi W.	36 57 35	9681	38 14 42	9587	39 33 30	9506	40 53 48	9434
	Aldebaran E.	46 44 52	9395	45 1 10	9404	43 17 41	9413	41 34 25	9423
	Venus E.	54 49 34	9750	53 14 1	9757	51 38 37	9765	50 3 23	9772
	Sun E.	76 30 52	9685	74 53 25	9679	73 16 7	9678	71 38 58	9686
30	α Aquilæ W.	95 38 48	9207	97 4 49	9220	98 30 34	9234	99 56 3	9250
	Fomalhaut W.	63 52 58	9614	65 31 34	9615	67 10 8	9618	68 48 39	9620
	α Pegasi W.	47 52 36	9188	49 19 0	9155	50 46 3	9196	52 13 41	9101
	Aldebaran E.	33 1 53	9483	31 20 16	9498	29 39 0	9515	27 58 7	9532
	Venus E.	42 9 37	9610	40 35 22	9618	39 1 18	9626	37 27 24	9635
	Sun E.	63 35 40	9729	61 59 30	9730	60 23 30	9738	58 47 41	9746

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Wed.	1	^h 6 ^m 40 ^s 33.06	10.343	N. 23° 7' 36.8"	-10.01	15' 46".12	68.79	^m 3 ^s 31.97	0.485
Thur.	2	6 44 41.18	10.333	23 3 24.3	11.02	15 46.11	68.75	3 43.50	0.475
Frid.	3	6 48 49.05	10.322	22 58 47.6	12.02	15 46.10	68.71	3 54.78	0.464
Sat.	4	6 52 56.63	10.309	22 53 46.9	-13.02	15 46.10	68.67	4 5.78	0.451
SUN.	5	6 57 3.91	10.296	22 48 22.2	14.02	15 46.11	68.62	4 16.47	0.438
Mon.	6	7 1 10.86	10.282	22 42 33.7	15.01	15 46.12	68.57	4 26.83	0.424
Tues.	7	7 5 17.45	10.267	22 36 21.5	-16.00	15 46.13	68.52	4 36.84	0.409
Wed.	8	7 9 23.67	10.251	22 29 45.8	16.97	15 46.16	68.47	4 46.47	0.393
Thur.	9	7 13 29.48	10.234	22 22 46.7	17.94	15 46.19	68.41	4 55.70	0.376
Frid.	10	7 17 34.88	10.216	22 15 24.4	-18.90	15 46.22	68.35	5 4.51	0.358
Sat.	11	7 21 39.83	10.197	22 7 39.1	19.85	15 46.26	68.29	5 12.88	0.339
SUN.	12	7 25 44.32	10.177	21 59 30.9	20.79	15 46.30	68.23	5 20.80	0.319
Mon.	13	7 29 48.34	10.157	21 51 0.0	-21.73	15 46.35	68.16	5 28.24	0.299
Tues.	14	7 33 51.86	10.136	21 42 6.7	22.66	15 46.40	68.10	5 35.18	0.278
Wed.	15	7 37 54.88	10.115	21 32 51.3	23.58	15 46.46	68.03	5 41.62	0.257
Thur.	16	7 41 57.38	10.093	21 23 13.9	-24.50	15 46.52	67.96	5 47.54	0.235
Frid.	17	7 45 59.35	10.071	21 13 14.8	25.41	15 46.59	67.89	5 52.94	0.213
Sat.	18	7 50 0.78	10.048	21 2 54.1	26.30	15 46.66	67.82	5 57.80	0.191
SUN.	19	7 54 1.66	10.025	20 52 12.1	-27.19	15 46.73	67.74	6 2.11	0.168
Mon.	20	7 58 1.98	10.002	20 41 9.0	28.06	15 46.81	67.66	6 5.87	0.145
Tues.	21	8 2 1.75	9.979	20 29 45.1	28.92	15 46.89	67.58	6 9.07	0.122
Wed.	22	8 6 0.96	9.955	20 18 0.6	-29.78	15 46.97	67.50	6 11.71	0.098
Thur.	23	8 9 59.60	9.931	20 5 55.7	30.62	15 47.05	67.42	6 13.79	0.074
Frid.	24	8 13 57.67	9.908	19 53 30.6	31.45	15 47.14	67.34	6 15.31	0.051
Sat.	25	8 17 55.16	9.884	19 40 45.7	-32.27	15 47.23	67.25	6 16.25	0.027
SUN.	26	8 21 52.08	9.860	19 27 41.2	33.08	15 47.32	67.17	6 16.61	0.003
Mon.	27	8 25 48.43	9.836	19 14 17.3	33.88	15 47.42	67.08	6 16.40	0.021
Tues.	28	8 29 44.20	9.812	19 0 34.2	-34.68	15 47.52	67.00	6 15.62	0.045
Wed.	29	8 33 39.39	9.788	18 46 32.2	35.46	15 47.63	66.91	6 14.26	0.062
Thur.	30	8 37 34.00	9.764	18 32 11.7	36.23	15 47.74	66.82	6 12.31	0.093
Frid.	31	8 41 28.01	9.739	18 17 32.8	36.99	15 47.85	66.73	6 9.76	0.118
Sat.	32	8 45 21.43	9.714	N. 18 2 35.9	-37.74	15 47.97	66.64	6 6.63	0.143

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Wed.	1	^h 6 ^m 40 ^s 32.45	10.342	N. 23° 7' 37.4"	-10.01	^m 3 ^s 31.94	0.485	^h 6 ^m 37 ^s 0.51
Thur.	2	6 44 40.54	10.332	23 3 25.0	11.02	3 43.47	0.475	6 40 57.07
Frid.	3	6 48 48.38	10.321	22 58 48.4	12.02	3 54.75	0.464	6 44 53.63
Sat.	4	6 52 55.93	10.308	22 53 47.8	-13.03	4 5.75	0.451	6 48 50.18
SUN.	5	6 57 3.18	10.295	22 48 23.2	14.02	4 16.44	0.438	6 52 46.74
Mon.	6	7 1 10.10	10.281	22 42 34.8	15.01	4 26.80	0.424	6 56 43.30
Tues.	7	7 5 16.67	10.266	22 36 22.7	-16.00	4 36.81	0.409	7 0 39.86
Wed.	8	7 9 22.86	10.250	22 29 47.1	16.97	4 46.44	0.393	7 4 36.42
Thur.	9	7 13 28.65	10.233	22 22 48.1	17.94	4 55.67	0.376	7 8 32.98
Frid.	10	7 17 34.02	10.215	22 15 25.9	-18.90	5 4.48	0.358	7 12 29.54
Sat.	11	7 21 38.95	10.196	22 7 40.7	19.85	5 12.85	0.339	7 16 26.10
SUN.	12	7 25 43.42	10.176	21 59 32.7	20.79	5 20.77	0.319	7 20 22.65
Mon.	13	7 29 47.42	10.156	21 51 2.0	-21.73	5 28.21	0.299	7 24 19.21
Tues.	14	7 33 50.92	10.135	21 42 8.9	22.66	5 35.15	0.278	7 28 15.77
Wed.	15	7 37 53.92	10.114	21 32 53.6	23.58	5 41.59	0.257	7 32 12.33
Thur.	16	7 41 56.40	10.092	21 23 16.4	-24.50	5 47.52	0.235	7 36 8.88
Frid.	17	7 45 58.36	10.070	21 13 17.4	25.41	5 52.92	0.213	7 40 5.44
Sat.	18	7 49 59.78	10.048	21 2 56.8	26.30	5 57.78	0.191	7 44 2.00
SUN.	19	7 54 0.65	10.025	20 52 14.9	-27.19	6 2.10	0.168	7 47 58.55
Mon.	20	7 58 0.97	10.002	20 41 11.9	28.06	6 5.86	0.145	7 51 55.11
Tues.	21	8 2 0.73	9.978	20 29 48.1	28.92	6 9.06	0.122	7 55 51.67
Wed.	22	8 5 59.93	9.955	20 18 3.7	-29.78	6 11.70	0.098	7 59 48.23
Thur.	23	8 9 58.57	9.931	20 5 58.9	30.62	6 13.78	0.074	8 3 44.79
Frid.	24	8 13 56.64	9.908	19 53 33.9	31.45	6 15.30	0.051	8 7 41.34
Sat.	25	8 17 54.14	9.884	19 40 49.1	-32.27	6 16.24	0.027	8 11 37.90
SUN.	26	8 21 51.06	9.860	19 27 44.7	33.08	6 16.60	0.003	8 15 34.46
Mon.	27	8 25 47.41	9.836	19 14 20.8	33.88	6 16.40	0.021	8 19 31.01
Tues.	28	8 29 43.19	9.812	19 0 37.8	-34.68	6 15.62	0.045	8 23 27.57
Wed.	29	8 33 38.38	9.788	18 46 35.9	35.46	6 14.26	0.069	8 27 24.12
Thur.	30	8 37 32.99	9.764	18 32 15.4	36.23	6 12.31	0.093	8 31 20.68
Frid.	31	8 41 27.01	9.739	18 17 36.6	36.99	6 9.77	0.118	8 35 17.24
Sat.	32	8 45 20.44	9.714	N. 18 2 39.7	-37.74	6 6.64	0.143	8 39 13.80

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE			
		λ	λ'					
1	182	99° 19' 7.4	18' 57.4	143.02	— 0.10	0.0072289	+ 2.6	17 20 8.62
2	183	100 16 19.9	16 9.7	143.02	+ 0.02	0.0072341	1.6	17 16 12.70
3	184	101 13 32.6	13 22.2	143.03	0.15	0.0072369	+ 0.6	17 12 16.79
4	185	102 10 45.5	10 34.9	143.03	+ 0.29	0.0072372	— 0.4	17 8 20.88
5	186	103 7 58.5	7 47.8	143.03	0.41	0.0072349	1.5	17 4 24.97
6	187	104 5 11.6	5 0.7	143.03	0.51	0.0072299	2.6	17 0 29.06
7	188	105 2 24.9	2 13.8	143.04	+ 0.60	0.0072222	— 3.7	16 56 33.15
8	189	105 59 38.2	59 26.9	143.05	0.67	0.0072119	4.8	16 52 37.24
9	190	106 56 51.6	56 40.1	143.06	0.70	0.0071990	5.9	16 48 41.32
10	191	107 54 5.1	53 53.4	143.06	+ 0.70	0.0071836	— 6.9	16 44 45.40
11	192	108 51 18.6	51 6.7	143.06	0.67	0.0071657	7.9	16 40 49.49
12	193	109 48 32.0	48 20.0	143.06	0.62	0.0071455	8.9	16 36 53.58
13	194	110 45 45.4	45 33.3	143.06	+ 0.54	0.0071231	— 9.8	16 32 57.67
14	195	111 42 58.9	42 46.6	143.06	0.44	0.0070985	10.7	16 29 1.75
15	196	112 40 12.6	40 0.0	143.07	0.31	0.0070719	11.5	16 25 5.84
16	197	113 37 26.3	37 13.5	143.07	+ 0.18	0.0070436	— 12.2	16 21 9.93
17	198	114 34 40.2	34 27.2	143.08	+ 0.05	0.0070136	12.8	16 17 14.02
18	199	115 31 54.4	31 41.2	143.10	— 0.08	0.0069821	13.5	16 13 18.12
19	200	116 29 9.0	28 55.7	143.12	— 0.21	0.0069491	— 14.1	16 9 22.21
20	201	117 26 24.0	26 10.5	143.13	0.32	0.0069147	14.7	16 5 26.30
21	202	118 23 39.4	23 25.7	143.15	0.40	0.0068789	15.2	16 1 30.39
22	203	119 20 55.3	20 41.4	143.18	— 0.45	0.0068417	— 15.8	15 57 34.47
23	204	120 18 11.9	17 57.9	143.21	0.48	0.0068031	16.4	15 53 38.56
24	205	121 15 29.4	15 15.2	143.24	0.48	0.0067631	17.0	15 49 42.65
25	206	122 12 47.7	12 33.4	143.28	— 0.45	0.0067217	— 17.6	15 45 46.74
26	207	123 10 6.9	9 52.4	143.32	0.39	0.0066788	18.2	15 41 50.82
27	208	124 7 27.1	7 12.4	143.36	0.30	0.0066343	18.9	15 37 54.91
28	209	125 4 48.4	4 33.6	143.40	— 0.19	0.0065880	— 19.7	15 33 59.00
29	210	126 2 10.8	1 55.9	143.45	— 0.07	0.0065398	20.5	15 30 3.09
30	211	126 59 34.3	59 19.2	143.49	+ 0.06	0.0064896	21.3	15 26 7.18
31	212	127 56 58.8	56 43.5	143.54	0.19	0.0064373	22.2	15 22 11.27
32	213	128 54 24.4	54 8.9	143.59	+ 0.31	0.0063828	— 23.1	15 18 15.36
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								
Diff. for 1 Hour, — 9 ^h .8296. (Table II.)								

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 54.3	15' 50.7	58' 15.8	-1.07	58' 2.7	-1.11	^h 20 ^m 46.7	^m 2.15	^d 24.8
2	15 47.0	15 43.2	57 49.1	1.16	57 35.0	1.20	21 39.4	2.23	25.8
3	15 39.3	15 35.2	57 20.4	1.24	57 5.4	1.27	22 33.9	2.29	26.8
4	15 31.0	15 26.8	56 50.1	-1.29	56 34.6	-1.30	23 29.4	2.30	27.8
5	15 22.5	15 18.3	56 19.0	1.30	56 3.4	1.29	^h 0 ^m 24.3	2.24	28.8
6	15 14.1	15 10.0	55 48.0	1.27	55 33.1	1.23	0 24.3	2.24	0.3
7	15 6.1	15 2.4	55 18.7	-1.17	55 5.1	-1.10	1 17.1	2.13	1.3
8	14 59.0	14 55.9	54 52.5	1.00	54 41.1	0.90	2 6.8	2.00	2.3
9	14 53.1	14 50.9	54 31.1	0.77	54 22.8	0.62	2 53.3	1.87	3.3
10	14 49.1	14 47.9	54 16.3	-0.46	54 11.8	-0.29	3 36.8	1.77	4.3
11	14 47.3	14 47.2	54 9.5	-0.11	54 9.4	+0.10	4 18.1	1.69	5.3
12	14 47.9	14 49.2	54 11.8	+0.30	54 16.6	0.51	4 58.1	1.66	6.3
13	14 51.2	14 53.9	54 24.0	+0.73	54 34.0	+0.94	5 38.0	1.68	7.3
14	14 57.3	15 1.4	54 46.5	1.15	55 1.4	1.35	6 18.7	1.74	8.3
15	15 6.1	15 11.3	55 18.7	1.54	55 38.1	1.70	7 1.6	1.86	9.3
16	15 17.2	15 23.5	55 59.5	+1.86	56 22.6	+1.98	7 47.8	2.01	10.3
17	15 30.1	15 37.0	56 47.0	2.08	57 12.3	2.14	8 38.1	2.20	11.3
18	15 44.1	15 51.0	57 38.1	2.16	58 3.8	2.13	9 33.2	2.38	12.3
19	15 57.9	16 4.4	58 29.0	+2.05	58 53.0	+1.94	10 32.5	2.52	13.3
20	16 10.5	16 16.0	59 15.4	1.77	59 35.5	1.56	11 34.3	2.58	14.3
21	16 20.7	16 24.6	59 52.8	1.32	60 6.9	1.04	12 36.1	2.53	15.3
22	16 27.5	16 29.4	60 17.6	+0.75	60 24.7	+0.44	13 35.8	2.41	16.3
23	16 30.3	16 30.2	60 27.9	+0.13	60 27.6	-0.18	14 32.1	2.28	17.3
24	16 29.1	16 27.2	60 23.7	-0.46	60 16.6	0.72	15 25.1	2.16	18.3
25	16 24.5	16 21.1	60 6.5	-0.94	59 54.1	-1.13	16 15.6	2.07	19.3
26	16 17.1	16 12.7	59 39.6	1.28	59 23.4	1.40	17 4.7	2.04	20.3
27	16 8.0	16 3.1	59 6.0	1.48	58 47.9	1.54	17 53.8	2.06	21.3
28	15 58.0	15 52.8	58 29.3	-1.57	58 10.4	-1.57	18 43.8	2.12	22.3
29	15 47.8	15 42.7	57 51.7	1.56	57 33.1	1.54	19 35.5	2.19	23.3
30	15 37.8	15 33.0	57 15.0	1.49	56 57.4	1.45	20 28.9	2.25	24.3
31	15 28.3	15 23.9	56 40.4	1.40	56 24.0	1.35	21 23.4	2.27	25.3
32	15 19.6	15 15.5	56 8.2	-1.29	55 53.1	-1.24	22 17.8	2.24	26.8

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	2 41 19.23	2.1736	N.13° 33' 17.9"	13.106	0	4 29 20.68	2.3288	N.22° 11' 24.0"	8.062
1	2 43 29.73	2.1764	13 46 21.9	13.087	1	4 31 40.50	2.3317	22 19 23.8	7.932
2	2 45 40.40	2.1792	13 59 21.2	12.948	2	4 34 0.49	2.3346	22 27 15.8	7.802
3	2 47 51.24	2.1822	14 12 15.7	12.868	3	4 36 20.65	2.3374	22 35 0.0	7.670
4	2 50 2.26	2.1852	14 25 5.3	12.786	4	4 38 40.98	2.3402	22 42 36.2	7.538
5	2 52 13.46	2.1882	14 37 50.0	12.703	5	4 41 1.47	2.3429	22 50 4.5	7.405
6	2 54 24.84	2.1912	14 50 29.6	12.618	6	4 43 22.13	2.3456	22 57 24.8	7.271
7	2 56 36.40	2.1942	15 3 4.1	12.533	7	4 45 42.95	2.3482	23 4 37.0	7.136
8	2 58 48.15	2.1973	15 15 33.5	12.446	8	4 48 3.92	2.3508	23 11 41.1	7.000
9	3 1 0.08	2.2004	15 27 57.6	12.358	9	4 50 25.05	2.3533	23 18 37.0	6.863
10	3 3 12.20	2.2036	15 40 16.4	12.269	10	4 52 46.32	2.3558	23 25 24.7	6.726
11	3 5 24.51	2.2068	15 52 29.9	12.179	11	4 55 7.74	2.3582	23 32 4.2	6.589
12	3 7 37.02	2.2101	16 4 37.9	12.087	12	4 57 29.30	2.3605	23 38 35.4	6.451
13	3 9 49.72	2.2133	16 16 40.3	11.994	13	4 59 51.00	2.3627	23 44 58.3	6.312
14	3 12 2.62	2.2166	16 28 37.1	11.900	14	5 2 12.83	2.3649	23 51 12.8	6.172
15	3 14 15.71	2.2198	16 40 28.3	11.806	15	5 4 34.79	2.3670	23 57 19.0	6.032
16	3 16 29.00	2.2231	16 52 13.8	11.710	16	5 6 56.87	2.3690	24 3 16.7	5.892
17	3 18 42.49	2.2264	17 3 53.5	11.612	17	5 9 19.07	2.3710	24 9 6.0	5.751
18	3 20 56.17	2.2298	17 15 27.3	11.513	18	5 11 41.39	2.3729	24 14 46.8	5.609
19	3 23 10.06	2.2332	17 26 55.1	11.413	19	5 14 3.82	2.3747	24 20 19.0	5.466
20	3 25 24.15	2.2365	17 38 16.9	11.313	20	5 16 26.36	2.3764	24 25 42.7	5.323
21	3 27 38.44	2.2399	17 49 32.7	11.212	21	5 18 48.99	2.3780	24 30 57.8	5.180
22	3 29 52.94	2.2433	18 0 42.4	11.109	22	5 21 11.72	2.3796	24 36 4.3	5.036
23	3 32 7.64	2.2467	N.18 11 45.8	11.004	23	5 23 34.55	2.3812	N.24 41 2.1	4.892
THURSDAY 2.					SATURDAY 4.				
0	3 34 22.55	2.2502	N.18 22 42.9	10.898	0	5 25 57.47	2.3827	N.24 45 51.3	4.747
1	3 36 37.66	2.2536	18 33 33.6	10.799	1	5 28 20.47	2.3839	24 50 31.8	4.602
2	3 38 52.98	2.2570	18 44 18.0	10.696	2	5 30 43.54	2.3851	24 55 3.5	4.456
3	3 41 8.50	2.2604	18 54 55.9	10.577	3	5 33 6.68	2.3862	24 59 26.5	4.310
4	3 43 24.23	2.2638	19 5 27.2	10.467	4	5 35 29.89	2.3873	25 3 40.7	4.164
5	3 45 40.16	2.2672	19 15 51.9	10.357	5	5 37 53.16	2.3882	25 7 46.2	4.018
6	3 47 56.29	2.2706	19 26 10.0	10.245	6	5 40 16.48	2.3891	25 11 42.9	3.871
7	3 50 12.63	2.2740	19 36 21.3	10.132	7	5 42 39.85	2.3899	25 15 30.7	3.724
8	3 52 29.17	2.2774	19 46 25.8	10.018	8	5 45 3.27	2.3907	25 19 9.7	3.577
9	3 54 45.92	2.2808	19 56 23.5	9.903	9	5 47 26.73	2.3912	25 22 39.9	3.430
10	3 57 2.87	2.2841	20 6 14.2	9.787	10	5 49 50.22	2.3917	25 26 1.3	3.282
11	3 59 20.01	2.2874	20 15 57.9	9.670	11	5 52 13.73	2.3920	25 29 13.7	3.133
12	4 1 37.36	2.2908	20 25 34.6	9.552	12	5 54 37.26	2.3923	25 32 17.2	2.985
13	4 3 54.91	2.2942	20 35 4.2	9.433	13	5 57 0.80	2.3925	25 35 11.9	2.837
14	4 6 12.66	2.2974	20 44 26.6	9.313	14	5 59 24.36	2.3927	25 37 57.7	2.688
15	4 8 30.60	2.3007	20 53 41.8	9.193	15	6 1 47.92	2.3929	25 40 34.5	2.539
16	4 10 48.74	2.3039	21 2 49.7	9.071	16	6 4 11.47	2.3925	25 43 2.4	2.392
17	4 13 7.07	2.3072	21 11 50.3	8.947	17	6 6 35.02	2.3923	25 45 21.5	2.244
18	4 15 25.60	2.3104	21 20 43.4	8.823	18	6 8 58.55	2.3920	25 47 31.7	2.096
19	4 17 44.32	2.3135	21 29 29.1	8.699	19	6 11 22.06	2.3916	25 49 33.0	1.947
20	4 20 3.22	2.3166	21 38 7.3	8.574	20	6 13 45.54	2.3911	25 51 25.3	1.798
21	4 22 22.31	2.3197	21 46 38.0	8.447	21	6 16 8.99	2.3905	25 53 8.7	1.650
22	4 24 41.58	2.3227	21 55 1.0	8.320	22	6 18 32.40	2.3897	25 54 43.3	1.502
23	4 27 1.04	2.3258	22 3 16.4	8.192	23	6 20 55.76	2.3888	25 56 8.9	1.353
24	4 29 20.68	2.3288	N.22 11 24.0	8.062	24	6 23 19.06	2.3879	N.25 57 25.6	1.204

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	h m s	s	N. 25° 57' 25.6"	1.904	0	h m s	s	N. 24° 12' 5.0"	5.354
1	6 23 19.06	2.3879	25 58 33.4	1.056	1	8 15 4.28	2.2371	24 6 40.2	5.479
2	6 25 42.31	2.3870	25 59 32.4	0.909	2	8 17 18.36	2.2323	24 1 8.3	5.590
3	6 28 5.50	2.3858	26 0 22.5	0.762	3	8 19 32.15	2.2274	23 55 29.4	5.706
4	6 30 28.61	2.3846	26 1 3.8	0.614	4	8 21 45.65	2.2225	23 49 43.6	5.821
5	6 32 51.65	2.3833	26 1 36.2	0.467	5	8 23 58.85	2.2176	23 43 50.9	5.936
6	6 35 14.61	2.3818	26 1 59.8	0.320	6	8 26 11.76	2.2127	23 37 51.3	6.050
7	6 37 37.47	2.3803	26 2 14.6	0.173	7	8 28 24.37	2.2078	23 31 44.9	6.162
8	6 40 0.24	2.3787	26 2 20.6	+ 0.027	8	8 30 36.67	2.2025	23 25 31.8	6.273
9	6 42 22.91	2.3769	26 2 17.8	- 0.119	9	8 32 48.67	2.1975	23 19 12.1	6.383
10	6 44 45.47	2.3751	26 2 6.3	0.264	10	8 35 0.37	2.1924	23 12 45.8	6.493
11	6 47 7.92	2.3732	26 1 46.1	0.410	11	8 37 11.76	2.1872	23 6 12.9	6.602
12	6 49 30.25	2.3713	26 1 17.1	0.556	12	8 39 22.84	2.1821	22 59 33.6	6.708
13	6 51 52.46	2.3691	26 0 39.4	0.700	13	8 41 33.61	2.1769	22 52 47.9	6.815
14	6 54 14.54	2.3668	25 59 53.1	0.843	14	8 43 44.07	2.1718	22 45 55.8	6.922
15	6 56 36.48	2.3644	25 58 58.2	0.987	15	8 45 54.22	2.1666	22 38 57.3	7.027
16	6 58 58.27	2.3619	25 57 54.7	1.130	16	8 48 4.06	2.1613	22 31 52.6	7.130
17	7 1 19.91	2.3594	25 56 42.6	1.272	17	8 50 13.58	2.1561	22 24 41.7	7.232
18	7 3 41.40	2.3569	25 55 22.0	1.414	18	8 52 22.79	2.1509	22 17 24.8	7.333
19	7 6 2.74	2.3542	25 53 52.9	1.556	19	8 54 31.69	2.1456	22 10 1.8	7.433
20	7 8 23.91	2.3514	25 52 15.3	1.697	20	8 56 40.27	2.1403	22 2 32.8	7.532
21	7 10 44.91	2.3485	25 50 29.2	1.838	21	8 58 48.53	2.1351	21 54 57.9	7.631
22	7 13 5.73	2.3455	25 48 34.7	1.978	22	9 0 56.48	2.1298	21 47 17.1	7.728
23	7 15 26.37	2.3425	N. 25° 46' 31.9"	2.117	23	9 3 4.11	2.1245	N. 21° 39' 30.5"	7.825
24	7 17 46.83	2.3394			24	9 5 11.42	2.1192		
MONDAY 6.					WEDNESDAY 8.				
0	7 20 7.10	2.3362	N. 25° 44' 20.7"	2.256	0	9 7 18.42	2.1140	N. 21° 31' 38.1"	7.921
1	7 22 27.17	2.3338	25 42 1.2	2.394	1	9 9 25.10	2.1087	21 23 40.0	8.014
2	7 24 47.04	2.3314	25 39 33.5	2.531	2	9 11 31.46	2.1034	21 15 36.4	8.107
3	7 27 6.70	2.3289	25 36 57.5	2.668	3	9 13 37.51	2.0982	21 7 27.2	8.199
4	7 29 26.15	2.3263	25 34 13.3	2.804	4	9 15 43.24	2.0929	20 59 12.5	8.291
5	7 31 45.38	2.3187	25 31 21.0	2.938	5	9 17 48.66	2.0877	20 50 52.3	8.383
6	7 34 4.39	2.3150	25 28 20.7	3.072	6	9 19 53.77	2.0825	20 42 26.7	8.471
7	7 36 23.18	2.3112	25 25 12.3	3.206	7	9 21 58.56	2.0772	20 33 55.8	8.558
8	7 38 41.74	2.3073	25 21 55.9	3.340	8	9 24 3.04	2.0720	20 25 19.7	8.645
9	7 41 0.06	2.3034	25 18 31.5	3.473	9	9 26 7.20	2.0668	20 16 38.4	8.732
10	7 43 18.15	2.2995	25 14 59.2	3.603	10	9 28 11.05	2.0616	20 7 51.9	8.817
11	7 45 36.00	2.2954	25 11 19.1	3.733	11	9 30 14.59	2.0564	19 59 0.4	8.900
12	7 47 53.60	2.2913	25 7 31.2	3.863	12	9 32 17.82	2.0512	19 50 3.9	8.983
13	7 50 10.95	2.2871	25 3 35.5	3.992	13	9 34 20.74	2.0461	19 41 2.4	9.066
14	7 52 28.05	2.2828	24 59 32.1	4.121	14	9 36 23.35	2.0410	19 31 56.0	9.147
15	7 54 44.89	2.2785	24 55 21.0	4.248	15	9 38 25.66	2.0359	19 22 44.8	9.227
16	7 57 1.47	2.2741	24 51 2.3	4.375	16	9 40 27.66	2.0308	19 13 28.8	9.306
17	7 59 17.78	2.2696	24 46 36.0	4.500	17	9 42 29.36	2.0256	19 4 8.1	9.384
18	8 1 33.82	2.2651	24 42 2.3	4.624	18	9 44 30.76	2.0208	18 54 42.7	9.462
19	8 3 49.59	2.2606	24 37 21.1	4.748	19	9 46 31.86	2.0158	18 45 12.7	9.538
20	8 6 5.09	2.2560	24 32 32.5	4.872	20	9 48 32.66	2.0108	18 35 38.2	9.613
21	8 8 20.31	2.2513	24 27 36.5	4.994	21	9 50 33.16	2.0059	18 25 59.2	9.688
22	8 10 35.25	2.2467	24 22 33.2	5.115	22	9 52 33.37	2.0011	18 16 15.7	9.761
23	8 12 49.91	2.2419	24 17 22.7	5.235	23	9 54 33.29	1.9962	18 6 27.9	9.832
24	8 15 4.28	2.2371	N. 24° 12' 5.0"	5.354	24	9 56 32.91	1.9913	N. 17° 56' 35.8"	9.903

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	9 56 32.91	1.9913	N. 17° 56' 35.8	9.903	0	11 27 24.80	1.8151	N. 8° 55' 53.7	12.311
1	9 58 32.24	1.9865	17 46 39.5	9.974	1	11 29 13.64	1.8198	8 43 34.1	12.342
2	10 0 31.29	1.9818	17 36 38.9	10.044	2	11 31 2.34	1.8106	8 31 12.6	12.373
3	10 2 30.06	1.9771	17 26 34.2	10.113	3	11 32 50.91	1.8085	8 18 49.3	12.403
4	10 4 28.54	1.9734	17 16 25.4	10.180	4	11 34 39.36	1.8065	8 6 24.3	12.432
5	10 6 26.74	1.9678	17 6 12.6	10.246	5	11 36 27.69	1.8045	7 53 57.5	12.461
6	10 8 24.67	1.9632	16 55 55.9	10.313	6	11 38 15.90	1.8025	7 41 29.0	12.488
7	10 10 22.32	1.9586	16 45 35.2	10.377	7	11 40 3.99	1.8007	7 28 58.9	12.515
8	10 12 19.70	1.9540	16 35 10.7	10.440	8	11 41 51.98	1.7989	7 16 27.2	12.542
9	10 14 16.80	1.9495	16 24 42.4	10.503	9	11 43 39.86	1.7973	7 3 53.9	12.567
10	10 16 13.64	1.9451	16 14 10.3	10.566	10	11 45 27.64	1.7955	6 51 19.1	12.592
11	10 18 10.21	1.9407	16 3 34.5	10.627	11	11 47 15.32	1.7938	6 38 42.8	12.617
12	10 20 6.52	1.9363	15 52 55.1	10.687	12	11 49 2.90	1.7922	6 26 5.0	12.641
13	10 22 2.57	1.9320	15 42 12.1	10.746	13	11 50 50.39	1.7908	6 13 25.9	12.664
14	10 23 58.36	1.9278	15 31 25.6	10.805	14	11 52 37.80	1.7895	6 0 45.4	12.687
15	10 25 53.90	1.9236	15 20 35.5	10.863	15	11 54 25.13	1.7882	5 48 3.5	12.709
16	10 27 49.19	1.9194	15 9 42.0	10.919	16	11 56 12.38	1.7869	5 35 20.3	12.730
17	10 29 44.23	1.9152	14 58 45.2	10.975	17	11 57 59.56	1.7858	5 22 35.9	12.750
18	10 31 39.02	1.9112	14 47 45.0	11.031	18	11 59 46.67	1.7847	5 9 50.3	12.770
19	10 33 33.57	1.9072	14 36 41.5	11.085	19	12 1 33.72	1.7836	4 57 3.5	12.789
20	10 35 27.88	1.9032	14 25 34.8	11.138	20	12 3 20.70	1.7825	4 44 15.6	12.808
21	10 37 21.96	1.8993	14 14 24.9	11.191	21	12 5 7.62	1.7816	4 31 26.5	12.827
22	10 39 15.80	1.8954	14 3 11.9	11.242	22	12 6 54.49	1.7807	4 18 36.4	12.843
23	10 41 9.41	1.8916	N. 13° 51' 55.9	11.292	23	12 8 41.31	1.7799	N. 4° 5' 45.3	12.859
FRIDAY 10.					SUNDAY 12.				
0	10 43 2.80	1.8879	N. 13° 40' 36.9	11.342	0	12 10 28.08	1.7792	N. 3° 52' 53.3	12.875
1	10 44 55.96	1.8842	13 29 14.9	11.392	1	12 12 14.81	1.7786	3 40 0.3	12.891
2	10 46 48.90	1.8805	13 17 49.9	11.441	2	12 14 1.51	1.7781	3 27 6.3	12.907
3	10 48 41.62	1.8769	13 6 22.0	11.488	3	12 15 48.18	1.7776	3 14 11.5	12.921
4	10 50 34.13	1.8734	12 54 51.3	11.535	4	12 17 34.82	1.7772	3 1 15.8	12.934
5	10 52 26.43	1.8699	12 43 17.8	11.581	5	12 19 21.44	1.7768	2 48 19.4	12.947
6	10 54 18.52	1.8665	12 31 41.6	11.626	6	12 21 8.04	1.7765	2 35 22.2	12.959
7	10 56 10.41	1.8633	12 20 2.7	11.670	7	12 22 54.62	1.7763	2 22 24.3	12.971
8	10 58 2.10	1.8598	12 8 21.2	11.714	8	12 24 41.19	1.7763	2 9 25.7	12.982
9	10 59 53.59	1.8566	11 56 37.0	11.757	9	12 26 27.76	1.7761	1 56 26.4	12.993
10	11 1 44.89	1.8534	11 44 50.3	11.799	10	12 28 14.32	1.7761	1 43 26.5	13.003
11	11 3 36.00	1.8502	11 33 1.1	11.841	11	12 30 0.89	1.7762	1 30 26.0	13.012
12	11 5 26.92	1.8473	11 21 9.4	11.882	12	12 31 47.46	1.7763	1 17 25.0	13.021
13	11 7 17.66	1.8443	11 9 15.3	11.921	13	12 33 34.04	1.7765	1 4 23.5	13.029
14	11 9 8.22	1.8413	10 57 18.9	11.960	14	12 35 20.64	1.7768	0 51 21.5	13.037
15	11 10 58.61	1.8383	10 45 20.1	11.999	15	12 37 7.26	1.7772	0 38 19.1	13.043
16	11 12 48.82	1.8355	10 33 19.0	12.037	16	12 38 53.90	1.7776	0 25 16.3	13.049
17	11 14 38.87	1.8327	10 21 15.7	12.074	17	12 40 40.57	1.7781	N. 0° 12' 13.2	13.054
18	11 16 28.75	1.8300	10 9 10.2	12.110	18	12 42 27.28	1.7787	S. 0° 0' 50.2	13.059
19	11 18 18.47	1.8274	9 57 2.5	12.145	19	12 44 14.02	1.7793	0 13 53.9	13.063
20	11 20 8.04	1.8248	9 44 52.8	12.179	20	12 46 0.80	1.7801	0 26 57.8	13.067
21	11 21 57.45	1.8222	9 32 41.0	12.213	21	12 47 47.63	1.7809	0 40 1.9	13.070
22	11 23 46.71	1.8198	9 20 27.2	12.247	22	12 49 34.51	1.7818	0 53 6.2	13.072
23	11 25 35.83	1.8174	9 8 11.4	12.279	23	12 51 21.45	1.7827	1 6 10.6	13.074
24	11 27 24.80	1.8151	N. 8° 55' 53.7	12.311	24	12 53 8.44	1.7836	S. 1° 19' 15.1	13.075

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	12 53 8.44	1.7838	S. 1° 19' 15.1"	13.075	0	14 21 21.76	1.9312	S. 11° 35' 0.5"	12.292
1	12 54 55.50	1.7849	1 32 19.6	13.075	1	14 23 17.17	1.9259	11 47 16.9	12.256
2	12 56 42.63	1.7860	1 45 24.1	13.075	2	14 25 12.87	1.9306	11 59 31.2	12.219
3	12 58 29.82	1.7872	1 58 28.6	13.074	3	14 27 8.85	1.9354	12 11 43.2	12.181
4	13 0 17.09	1.7886	2 11 33.0	13.073	4	14 29 5.12	1.9403	12 23 52.9	12.142
5	13 2 4.45	1.7900	2 24 37.3	13.071	5	14 31 1.69	1.9454	12 36 0.2	12.101
6	13 3 51.89	1.7914	2 37 41.5	13.068	6	14 32 58.57	1.9505	12 48 5.0	12.059
7	13 5 39.42	1.7930	2 50 45.5	13.064	7	14 34 55.75	1.9556	13 0 7.3	12.017
8	13 7 27.05	1.7946	3 3 49.2	13.060	8	14 36 53.24	1.9608	13 12 7.1	11.975
9	13 9 14.77	1.7963	3 16 52.7	13.056	9	14 38 51.05	1.9661	13 24 4.3	11.931
10	13 11 2.60	1.7981	3 29 55.9	13.050	10	14 40 49.18	1.9715	13 35 58.8	11.886
11	13 12 50.54	1.7999	3 42 58.7	13.044	11	14 42 47.63	1.9768	13 47 50.6	11.840
12	13 14 38.59	1.8018	3 56 1.1	13.037	12	14 44 46.40	1.9823	13 59 39.6	11.792
13	13 16 26.76	1.8038	4 9 3.1	13.029	13	14 46 45.50	1.9879	14 11 25.7	11.744
14	13 18 15.05	1.8059	4 22 4.6	13.021	14	14 48 44.94	1.9936	14 23 8.9	11.695
15	13 20 3.47	1.8081	4 35 5.6	13.012	15	14 50 44.73	1.9993	14 34 49.1	11.644
16	13 21 52.02	1.8103	4 48 6.1	13.002	16	14 52 44.86	2.0050	14 46 26.2	11.592
17	13 23 40.70	1.8125	5 1 5.9	12.992	17	14 54 45.33	2.0108	14 58 0.1	11.539
18	13 25 29.52	1.8148	5 14 5.1	12.981	18	14 56 46.15	2.0167	15 9 30.9	11.486
19	13 27 18.48	1.8173	5 27 3.6	12.969	19	14 58 47.33	2.0227	15 20 58.4	11.431
20	13 29 7.60	1.8199	5 40 1.4	12.956	20	15 0 48.87	2.0287	15 32 22.6	11.374
21	13 30 56.87	1.8225	5 52 58.4	12.943	21	15 2 50.77	2.0347	15 43 43.3	11.317
22	13 32 46.30	1.8252	6 5 54.6	12.930	22	15 4 53.03	2.0408	15 55 0.6	11.259
23	13 34 35.89	1.8278	S. 6 18 50.0	12.916	23	15 6 55.67	2.0471	S. 16 6 14.4	11.199
TUESDAY 14.					THURSDAY 16.				
0	13 36 25.64	1.8306	S. 6 31 44.5	12.901	0	15 8 58.68	2.0534	S. 16 17 24.5	11.138
1	13 38 15.56	1.8335	6 44 38.1	12.884	1	15 11 2.07	2.0597	16 28 30.9	11.076
2	13 40 5.66	1.8366	6 57 30.6	12.867	2	15 13 5.84	2.0660	16 39 33.6	11.013
3	13 41 55.95	1.8397	7 10 22.1	12.849	3	15 15 9.99	2.0724	16 50 32.5	10.949
4	13 43 46.43	1.8428	7 23 12.5	12.831	4	15 17 14.53	2.0789	17 1 27.5	10.883
5	13 45 37.09	1.8459	7 36 1.8	12.812	5	15 19 19.46	2.0855	17 12 18.5	10.815
6	13 47 27.94	1.8492	7 48 49.9	12.792	6	15 21 24.79	2.0921	17 23 5.3	10.746
7	13 49 18.99	1.8526	8 1 36.8	12.772	7	15 23 30.51	2.0988	17 33 48.0	10.677
8	13 51 10.25	1.8561	8 14 22.5	12.750	8	15 25 36.64	2.1055	17 44 26.6	10.607
9	13 53 1.72	1.8596	8 27 6.8	12.728	9	15 27 43.17	2.1122	17 55 0.9	10.535
10	13 54 53.40	1.8632	8 39 49.8	12.705	10	15 29 50.10	2.1189	18 5 30.8	10.462
11	13 56 45.30	1.8668	8 52 31.4	12.681	11	15 31 57.44	2.1258	18 15 56.3	10.388
12	13 58 37.41	1.8704	9 5 11.5	12.656	12	15 34 5.20	2.1327	18 26 17.3	10.312
13	14 0 29.75	1.8743	9 17 50.1	12.630	13	15 36 13.37	2.1397	18 36 33.7	10.234
14	14 2 22.33	1.8782	9 30 27.1	12.604	14	15 38 21.96	2.1467	18 46 45.4	10.155
15	14 4 15.14	1.8822	9 43 2.5	12.577	15	15 40 30.97	2.1537	18 56 52.3	10.075
16	14 6 8.19	1.8863	9 55 36.3	12.549	16	15 42 40.41	2.1608	19 6 54.4	9.993
17	14 8 1.49	1.8903	10 8 8.4	12.520	17	15 44 50.27	2.1678	19 16 51.5	9.910
18	14 9 55.03	1.8944	10 20 38.7	12.490	18	15 47 0.55	2.1749	19 26 43.6	9.826
19	14 11 48.82	1.8987	10 33 7.2	12.459	19	15 49 11.26	2.1821	19 36 30.6	9.741
20	14 13 42.87	1.9031	10 45 33.8	12.427	20	15 51 22.41	2.1894	19 46 12.5	9.654
21	14 15 37.19	1.9075	10 57 58.5	12.395	21	15 53 33.99	2.1967	19 55 49.1	9.565
22	14 17 31.77	1.9120	11 10 21.2	12.362	22	15 55 46.01	2.2039	20 5 20.3	9.475
23	14 19 26.63	1.9166	11 22 41.9	12.327	23	15 57 58.46	2.2112	20 14 46.1	9.384
24	14 21 21.76	1.9212	S. 11 35 0.5	12.292	24	16 0 11.35	2.2185	S. 20 24 6.4	9.292

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	h m s	s	S. 20° 24' 6.4	9.292	0	h m s	s	S. 25° 35' 4.2	3.103
1	16 0 11.35	2.2185	20 33 21.1	9.198	1	17 55 0.80	2.5502	25 38 5.5	2.940
2	16 2 24.68	2.2258	20 42 30.1	9.103	2	17 57 33.97	2.5555	25 40 57.0	2.777
3	16 4 38.45	2.2332	20 51 33.3	9.004	3	18 0 7.46	2.5607	25 43 38.7	2.613
4	16 6 52.67	2.2406	21 0 30.6	8.906	4	18 2 41.26	2.5657	25 46 10.5	2.446
5	16 9 7.33	2.2480	21 9 22.0	8.807	5	18 5 15.35	2.5707	25 48 32.2	2.278
6	16 11 22.43	2.2554	21 18 7.4	8.705	6	18 7 49.74	2.5755	25 50 43.8	2.109
7	16 13 37.98	2.2629	21 26 46.6	8.602	7	18 10 24.41	2.5801	25 52 45.3	1.941
8	16 15 53.98	2.2703	21 35 19.6	8.498	8	18 12 59.35	2.5847	25 54 36.7	1.771
9	16 18 10.42	2.2777	21 43 46.3	8.392	9	18 15 34.57	2.5892	25 56 17.8	1.599
10	16 20 27.31	2.2852	21 52 6.6	8.284	10	18 18 10.05	2.5934	25 57 48.6	1.427
11	16 22 44.65	2.2927	22 0 20.4	8.175	11	18 20 45.78	2.5976	25 59 9.0	1.254
12	16 25 2.43	2.3001	22 8 27.6	8.064	12	18 23 21.76	2.6016	26 0 19.1	1.081
13	16 27 20.66	2.3076	22 16 28.1	7.952	13	18 25 57.97	2.6054	26 1 18.7	0.906
14	16 29 39.34	2.3151	22 24 21.9	7.839	14	18 28 34.41	2.6092	26 2 7.8	0.731
15	16 31 58.47	2.3225	22 32 8.8	7.724	15	18 31 11.07	2.6130	26 2 46.4	0.555
16	16 34 18.04	2.3299	22 39 48.8	7.607	16	18 33 47.93	2.6166	26 3 14.4	0.378
17	16 36 38.06	2.3373	22 47 21.7	7.489	17	18 36 24.99	2.6193	26 3 31.7	0.200
18	16 38 58.52	2.3448	22 54 47.5	7.370	18	18 39 2.25	2.6225	26 3 38.4	- 0.022
19	16 41 19.43	2.3522	23 2 6.1	7.249	19	18 41 39.69	2.6254	26 3 34.4	+ 0.157
20	16 43 40.78	2.3595	23 9 17.4	7.126	20	18 44 17.30	2.6282	26 3 19.6	0.336
21	16 46 2.57	2.3669	23 16 21.2	7.001	21	18 46 55.07	2.6308	26 2 54.1	0.515
22	16 48 24.81	2.3743	23 23 17.5	6.876	22	18 49 33.00	2.6333	26 2 17.8	0.695
23	16 50 47.49	2.3816	S. 23 30 6.3	6.750	23	18 52 11.07	2.6357	S. 26 1 30.7	0.872
24	16 53 10.60	2.3888				18 54 49.28	2.6379		
SATURDAY 18.					MONDAY 20.				
0	16 55 34.14	2.3960	S. 23 36 47.5	6.622	0	18 57 27.62	2.6399	S. 26 0 32.7	1.057
1	16 57 58.12	2.4032	23 43 20.9	6.491	1	19 0 6.07	2.6417	25 59 23.8	1.229
2	17 0 22.53	2.4103	23 49 46.4	6.358	2	19 2 44.63	2.6434	25 58 4.0	1.400
3	17 2 47.36	2.4174	23 56 3.9	6.225	3	19 5 23.28	2.6449	25 56 33.4	1.601
4	17 5 12.62	2.4245	24 2 13.4	6.091	4	19 8 2.02	2.6463	25 54 51.9	1.783
5	17 7 38.30	2.4314	24 8 14.8	5.955	5	19 10 40.84	2.6475	25 52 59.4	1.966
6	17 10 4.39	2.4383	24 14 8.0	5.817	6	19 13 19.72	2.6485	25 50 55.9	2.149
7	17 12 30.90	2.4452	24 19 52.9	5.678	7	19 15 58.66	2.6494	25 48 41.5	2.332
8	17 14 57.82	2.4521	24 25 29.4	5.538	8	19 18 37.65	2.6501	25 46 16.1	2.514
9	17 17 25.15	2.4588	24 30 57.4	5.396	9	19 21 16.67	2.6506	25 43 39.8	2.697
10	17 19 52.88	2.4655	24 36 16.9	5.252	10	19 23 55.72	2.6510	25 40 52.5	2.880
11	17 22 21.01	2.4722	24 41 27.7	5.107	11	19 26 34.79	2.6512	25 37 54.2	3.062
12	17 24 49.54	2.4787	24 46 29.7	4.960	12	19 29 13.87	2.6513	25 34 45.0	3.245
13	17 27 18.46	2.4852	24 51 22.9	4.813	13	19 31 52.95	2.6512	25 31 24.8	3.427
14	17 29 47.76	2.4915	24 56 7.3	4.665	14	19 34 32.01	2.6508	25 27 53.7	3.609
15	17 32 17.44	2.4978	25 0 42.7	4.514	15	19 37 11.05	2.6504	25 24 11.7	3.791
16	17 34 47.50	2.5041	25 5 9.0	4.362	16	19 39 50.06	2.6498	25 20 18.8	3.972
17	17 37 17.93	2.5102	25 9 26.2	4.210	17	19 42 29.03	2.6492	25 16 15.0	4.154
18	17 39 48.72	2.5162	25 13 34.2	4.056	18	19 45 7.96	2.6483	25 12 0.3	4.335
19	17 42 19.87	2.5222	25 17 32.9	3.900	19	19 47 46.82	2.6471	25 7 34.8	4.515
20	17 44 51.38	2.5280	25 21 22.2	3.743	20	19 50 25.61	2.6459	25 2 58.5	4.695
21	17 47 23.23	2.5337	25 25 2.1	3.585	21	19 53 4.33	2.6446	24 58 11.4	4.875
22	17 49 55.42	2.5393	25 28 32.4	3.425	22	19 55 42.96	2.6431	24 53 13.5	5.054
23	17 52 27.95	2.5448	25 31 53.1	3.265	23	19 58 21.50	2.6414	24 48 4.9	5.233
24	17 55 0.80	2.5502	S. 25 35 4.2	3.103	24	20 0 59.93	2.6396	S. 24 42 45.6	5.411

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	^h 20 ^m 0 ^s 59.93	2.6396	S. 24° 42' 45.6"	5.411	0	^h 22 ^m 3 ^s 26.89	2.4339	S. 17° 18' 28.4"	12.555
1	20 3 38.25	2.6377	24 37 15.6	5.588	1	22 5 52.72	2.4277	17 5 51.8	12.604
2	20 6 16.45	2.6355	24 31 35.0	5.764	2	22 8 18.22	2.4222	16 53 8.7	12.779
3	20 8 54.51	2.6332	24 25 43.9	5.939	3	22 10 43.38	2.4166	16 40 19.2	12.878
4	20 11 32.43	2.6308	24 19 42.3	6.114	4	22 13 8.21	2.4112	16 27 23.4	12.982
5	20 14 10.21	2.6284	24 13 30.2	6.288	5	22 15 32.72	2.4057	16 14 21.4	13.083
6	20 16 47.84	2.6257	24 7 7.7	6.462	6	22 17 56.90	2.4002	16 1 13.4	13.183
7	20 19 25.30	2.6229	24 0 34.8	6.634	7	22 20 20.75	2.3947	15 47 59.4	13.282
8	20 22 2.59	2.6201	23 53 51.6	6.806	8	22 22 44.27	2.3892	15 34 39.6	13.378
9	20 24 39.71	2.6171	23 46 58.1	6.977	9	22 25 7.46	2.3838	15 21 14.0	13.473
10	20 27 16.64	2.6138	23 39 54.4	7.147	10	22 27 30.33	2.3785	15 7 42.8	13.566
11	20 29 53.37	2.6105	23 32 40.5	7.315	11	22 29 52.88	2.3731	14 54 6.1	13.657
12	20 32 29.90	2.6079	23 25 16.6	7.482	12	22 32 15.10	2.3677	14 40 24.0	13.746
13	20 35 6.23	2.6037	23 17 42.7	7.648	13	22 34 37.00	2.3624	14 26 36.6	13.832
14	20 37 42.34	2.6000	23 9 58.8	7.813	14	22 36 58.58	2.3571	14 12 44.1	13.917
15	20 40 18.23	2.5963	23 2 5.1	7.977	15	22 39 19.85	2.3518	13 58 46.5	14.001
16	20 42 53.90	2.5925	22 54 1.6	8.140	16	22 41 40.80	2.3466	13 44 44.0	14.082
17	20 45 29.33	2.5885	22 45 48.3	8.303	17	22 44 1.44	2.3413	13 30 36.7	14.162
18	20 48 4.52	2.5844	22 37 25.4	8.462	18	22 46 21.76	2.3361	13 16 24.6	14.240
19	20 50 39.46	2.5803	22 28 52.9	8.621	19	22 48 41.77	2.3310	13 2 7.9	14.315
20	20 53 14.16	2.5762	22 20 10.9	8.778	20	22 51 1.48	2.3260	12 47 46.8	14.388
21	20 55 48.60	2.5718	22 11 19.5	8.934	21	22 53 20.89	2.3210	12 33 21.3	14.461
22	20 58 22.78	2.5674	22 2 18.8	9.089	22	22 55 40.00	2.3159	12 18 51.5	14.531
23	21 0 56.69	2.5629	S. 21 53 8.8	9.242	23	22 57 58.80	2.3109	S. 12 4 17.6	14.598
WEDNESDAY 22.					FRIDAY 24.				
0	21 3 30.33	2.5583	S. 21 43 49.7	9.394	0	23 0 17.31	2.3061	S. 11 49 39.7	14.664
1	21 6 3.69	2.5537	21 34 21.5	9.545	1	23 2 35.53	2.3012	11 34 57.9	14.728
2	21 8 36.77	2.5490	21 24 44.3	9.694	2	23 4 53.46	2.2964	11 20 12.3	14.792
3	21 11 9.57	2.5442	21 14 58.2	9.842	3	23 7 11.10	2.2917	11 5 22.9	14.853
4	21 13 42.08	2.5393	21 5 3.3	9.988	4	23 9 28.46	2.2870	10 50 29.9	14.912
5	21 16 14.29	2.5344	20 54 59.6	10.132	5	23 11 45.54	2.2824	10 35 33.5	14.968
6	21 18 46.21	2.5295	20 44 47.4	10.274	6	23 14 2.35	2.2778	10 20 33.7	15.024
7	21 21 17.83	2.5244	20 34 26.7	10.416	7	23 16 18.88	2.2732	10 5 30.6	15.077
8	21 23 49.14	2.5193	20 23 57.5	10.556	8	23 18 35.14	2.2688	9 50 24.4	15.128
9	21 26 20.15	2.5142	20 13 20.0	10.693	9	23 20 51.14	2.2645	9 35 15.2	15.178
10	21 28 50.85	2.5090	20 2 34.3	10.829	10	23 23 6.88	2.2601	9 20 3.0	15.226
11	21 31 21.23	2.5037	19 51 40.5	10.964	11	23 25 22.36	2.2558	9 4 48.0	15.272
12	21 33 51.30	2.4985	19 40 38.6	11.097	12	23 27 37.58	2.2516	8 49 30.4	15.315
13	21 36 21.05	2.4932	19 29 28.8	11.228	13	23 29 52.55	2.2475	8 34 10.2	15.358
14	21 38 50.48	2.4878	19 18 11.2	11.357	14	23 32 7.28	2.2435	8 18 47.4	15.400
15	21 41 19.59	2.4825	19 6 45.9	11.485	15	23 34 21.77	2.2395	8 3 22.2	15.439
16	21 43 48.38	2.4771	18 55 13.0	11.611	16	23 36 36.02	2.2355	7 47 54.7	15.477
17	21 46 16.84	2.4717	18 43 32.6	11.736	17	23 38 50.03	2.2316	7 32 25.0	15.512
18	21 48 44.98	2.4662	18 31 44.7	11.858	18	23 41 3.81	2.2277	7 16 53.3	15.545
19	21 51 12.79	2.4607	18 19 49.6	11.978	19	23 43 17.36	2.2240	7 1 19.6	15.578
20	21 53 40.27	2.4552	18 7 47.3	12.097	20	23 45 30.69	2.2204	6 45 44.0	15.608
21	21 56 7.42	2.4497	17 55 37.9	12.214	21	23 47 43.81	2.2169	6 30 6.7	15.636
22	21 58 34.24	2.4442	17 43 21.6	12.329	22	23 49 56.72	2.2134	6 14 27.7	15.662
23	22 1 0.73	2.4387	17 30 58.4	12.443	23	23 52 9.42	2.2099	5 58 47.2	15.687
24	22 3 26.89	2.4332	S. 17 18 28.4	12.555	24	23 54 21.91	2.2065	S. 5 43 5.2	15.711

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	^h 23 ^m 54 ^s 21.91	2.9065	S. 5° 43' 5.2	15.711	0	^h 1 ^m 37 ^s 53.16	2.1368	N. 6° 48' 0.6	15.091
1	23 56 34.20	2.9033	5 27 21.9	15.733	1	1 40 1.38	2.1379	7 3 0.4	14.979
2	23 58 46.30	2.9001	5 11 37.3	15.753	2	1 42 9.63	2.1378	7 17 57.3	14.923
3	0 0 58.21	2.1969	4 55 51.5	15.779	3	1 44 17.92	2.1385	7 32 51.2	14.873
4	0 3 9.93	2.1938	4 40 4.7	15.788	4	1 46 26.25	2.1391	7 47 41.9	14.819
5	0 5 21.47	2.1908	4 24 17.0	15.803	5	1 48 34.61	2.1397	8 2 29.4	14.765
6	0 7 32.83	2.1879	4 8 28.4	15.816	6	1 50 43.01	2.1404	8 17 13.7	14.710
7	0 9 44.02	2.1851	3 52 39.1	15.827	7	1 52 51.46	2.1413	8 31 54.6	14.654
8	0 11 55.05	2.1824	3 36 49.1	15.838	8	1 54 59.97	2.1422	8 46 32.1	14.597
9	0 14 5.91	2.1797	3 20 58.5	15.847	9	1 57 8.53	2.1432	9 1 6.2	14.538
10	0 16 16.61	2.1771	3 5 7.5	15.853	10	1 59 17.15	2.1442	9 15 36.7	14.478
11	0 18 27.16	2.1746	2 49 16.1	15.859	11	2 1 25.84	2.1453	9 30 3.6	14.417
12	0 20 37.56	2.1721	2 33 24.4	15.863	12	2 3 34.59	2.1465	9 44 26.8	14.355
13	0 22 47.81	2.1698	2 17 32.5	15.865	13	2 5 43.42	2.1477	9 58 46.2	14.292
14	0 24 57.93	2.1676	2 1 40.6	15.865	14	2 7 52.32	2.1490	10 13 1.8	14.227
15	0 27 7.92	2.1654	1 45 48.7	15.864	15	2 10 1.30	2.1503	10 27 13.5	14.161
16	0 29 17.78	2.1632	1 29 56.9	15.862	16	2 12 10.36	2.1517	10 41 21.1	14.094
17	0 31 27.51	2.1612	1 14 5.2	15.859	17	2 14 19.51	2.1532	10 55 24.7	14.026
18	0 33 37.12	2.1592	0 58 13.8	15.853	18	2 16 28.75	2.1547	11 9 24.2	13.957
19	0 35 46.61	2.1573	0 42 22.8	15.846	19	2 18 38.08	2.1563	11 23 19.5	13.886
20	0 37 56.00	2.1556	0 26 32.3	15.838	20	2 20 47.51	2.1580	11 37 10.5	13.813
21	0 40 5.28	2.1539	S. 0 10 42.3	15.828	21	2 22 57.04	2.1597	11 50 57.1	13.740
22	0 42 14.46	2.1522	N. 0 5 7.0	15.816	22	2 25 6.67	2.1614	12 4 39.3	13.667
23	0 44 23.54	2.1506	0 20 55.6	15.802	23	2 27 16.41	2.1631	N. 12 18 17.1	13.593
SUNDAY 26.					TUESDAY 28.				
0	0 46 32.53	2.1491	N. 0 36 43.3	15.787	0	2 29 26.25	2.1650	N. 12 31 50.4	13.517
1	0 48 41.44	2.1477	0 52 30.1	15.779	1	2 31 36.21	2.1670	12 45 19.1	13.438
2	0 50 50.26	2.1463	1 8 15.9	15.755	2	2 33 46.29	2.1689	12 58 43.0	13.359
3	0 52 59.00	2.1451	1 24 0.7	15.737	3	2 35 56.48	2.1709	13 12 2.2	13.280
4	0 55 7.67	2.1440	1 39 44.3	15.716	4	2 38 6.79	2.1729	13 25 16.6	13.199
5	0 57 16.28	2.1429	1 55 26.6	15.694	5	2 40 17.23	2.1751	13 38 26.1	13.117
6	0 59 24.82	2.1418	2 11 7.6	15.679	6	2 42 27.80	2.1772	13 51 30.6	13.033
7	1 1 33.30	2.1409	2 26 47.2	15.647	7	2 44 38.50	2.1794	14 4 30.1	12.949
8	1 3 41.73	2.1401	2 42 25.2	15.630	8	2 46 49.33	2.1816	14 17 24.5	12.864
9	1 5 50.12	2.1394	2 58 1.6	15.599	9	2 49 0.29	2.1838	14 30 13.8	12.778
10	1 7 58.46	2.1387	3 13 36.3	15.564	10	2 51 11.39	2.1862	14 42 57.9	12.691
11	1 10 6.76	2.1381	3 29 9.3	15.535	11	2 53 22.63	2.1886	14 55 36.7	12.602
12	1 12 15.03	2.1376	3 44 40.5	15.503	12	2 55 34.02	2.1910	15 8 10.1	12.512
13	1 14 23.27	2.1371	4 0 9.7	15.470	13	2 57 45.55	2.1934	15 20 38.1	12.422
14	1 16 31.48	2.1367	4 15 36.9	15.436	14	2 59 57.22	2.1958	15 33 0.7	12.330
15	1 18 39.67	2.1363	4 31 2.0	15.400	15	3 2 9.04	2.1983	15 45 17.7	12.237
16	1 20 47.84	2.1361	4 46 24.9	15.363	16	3 4 21.01	2.2008	15 57 29.1	12.143
17	1 22 56.00	2.1359	5 1 45.6	15.325	17	3 6 33.14	2.2034	16 9 34.9	12.048
18	1 25 4.15	2.1358	5 17 3.9	15.285	18	3 8 45.42	2.2060	16 21 34.9	11.952
19	1 27 12.30	2.1358	5 32 19.8	15.244	19	3 10 57.86	2.2086	16 33 29.1	11.855
20	1 29 20.45	2.1359	5 47 33.2	15.203	20	3 13 10.45	2.2112	16 45 17.5	11.757
21	1 31 28.61	2.1361	6 2 44.1	15.160	21	3 15 23.20	2.2138	16 57 0.0	11.658
22	1 33 36.78	2.1363	6 17 52.4	15.115	22	3 17 36.11	2.2165	17 8 36.5	11.558
23	1 35 44.96	2.1365	6 32 57.9	15.068	23	3 19 49.18	2.2193	17 20 7.0	11.457
24	1 37 53.16	2.1368	N. 6 48 0.6	15.021	24	3 22 2.42	2.2220	N. 17 31 31.3	11.354

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 29.					FRIDAY 31.				
0	3 ^h 22 ^m 2.42 ^s	2.9920	N.17° 31' 31.3"	11.354	0	5 ^h 11 ^m 49.02 ^s	2.3431	N.24° 21' 48.8"	5.449
1	3 24 15.82	2.9947	17 42 49.5	11.251	1	5 14 9.65	2.3447	24 27 11.2	5.303
2	3 26 29.39	2.9975	17 54 1.5	11.147	2	5 16 30.38	2.3463	24 32 25.2	5.163
3	3 28 43.12	2.9303	18 5 7.2	11.049	3	5 18 51.20	2.3478	24 37 30.8	5.023
4	3 30 57.02	2.9331	18 16 6.6	10.937	4	5 21 12.11	2.3491	24 42 28.0	4.889
5	3 33 11.09	2.9358	18 26 59.6	10.899	5	5 23 33.09	2.3503	24 47 16.7	4.749
6	3 35 25.32	2.9386	18 37 46.1	10.791	6	5 25 54.15	2.3516	24 51 57.0	4.601
7	3 37 39.72	2.9415	18 48 26.1	10.619	7	5 28 15.28	2.3528	24 56 28.8	4.458
8	3 39 54.30	2.9444	18 58 59.6	10.503	8	5 30 36.48	2.3539	25 0 52.0	4.316
9	3 42 9.05	2.9473	19 9 26.5	10.399	9	5 32 57.75	2.3549	25 5 6.7	4.173
10	3 44 23.97	2.9501	19 19 46.7	10.280	10	5 35 19.07	2.3558	25 9 12.8	4.030
11	3 46 39.06	2.9528	19 30 0.1	10.167	11	5 37 40.44	2.3567	25 13 10.3	3.888
12	3 48 54.31	2.9557	19 40 6.7	10.053	12	5 40 1.87	2.3575	25 16 59.3	3.745
13	3 51 9.74	2.9586	19 50 6.5	9.939	13	5 42 23.34	2.3582	25 20 39.7	3.601
14	3 53 25.34	2.9614	19 59 59.4	9.823	14	5 44 44.85	2.3588	25 24 11.4	3.457
15	3 55 41.11	2.9642	20 9 45.3	9.707	15	5 47 6.39	2.3593	25 27 34.5	3.313
16	3 57 57.05	2.9670	20 19 24.2	9.590	16	5 49 27.96	2.3598	25 30 49.0	3.169
17	4 0 13.15	2.9698	20 28 56.1	9.473	17	5 51 49.56	2.3602	25 33 54.8	3.024
18	4 2 29.43	2.9727	20 38 20.9	9.354	18	5 54 11.18	2.3604	25 36 51.9	2.879
19	4 4 45.88	2.9755	20 47 38.6	9.234	19	5 56 32.81	2.3606	25 39 40.3	2.735
20	4 7 2.49	2.9783	20 56 49.0	9.113	20	5 58 54.45	2.3607	25 42 20.1	2.591
21	4 9 19.27	2.9811	21 5 52.1	8.991	21	6 1 16.10	2.3608	25 44 51.2	2.446
22	4 11 36.22	2.9838	21 14 47.9	8.869	22	6 3 37.75	2.3607	25 47 13.6	2.301
23	4 13 53.33	2.9865	N.21° 23' 36.4"	8.747	23	6 5 59.39	2.3606	N.25° 49' 27.3"	2.157
THURSDAY 30.					SATURDAY, AUGUST 1.				
0	4 16 10.60	2.9893	N.21° 32' 17.5"	8.623	0	6 8 21.02	2.3603	N.25° 51' 32.4"	2.019
1	4 18 28.04	2.9920	21 40 51.2	8.499	PHASES OF THE MOON.				
2	4 20 45.64	2.9946	21 49 17.4	8.373					
3	4 23 3.39	2.9972	21 57 36.0	8.247					
4	4 25 21.30	2.9998	22 5 47.0	8.119					
5	4 27 39.37	2.3024	22 13 50.3	7.991	● New Moon . . . July 5 15 58.5 ☾ First Quarter. . . . 13 17 28.9 ○ Full Moon 21 1 54.1 ☾ Last Quarter 27 16 32.6				
6	4 29 57.59	2.3049	22 21 45.9	7.862					
7	4 32 15.96	2.3074	22 29 33.8	7.734					
8	4 34 34.48	2.3099	22 37 14.0	7.605					
9	4 36 53.15	2.3123	22 44 46.4	7.475	☾ Apogee July 11 6.4 ☾ Perigee 23 5.0				
10	4 39 11.96	2.3147	22 52 11.0	7.343					
11	4 41 30.92	2.3171	22 59 27.6	7.211					
12	4 43 50.02	2.3194	23 6 36.3	7.078					
13	4 46 9.25	2.3217	23 13 37.0	6.945					
14	4 48 28.62	2.3239	23 20 29.7	6.812					
15	4 50 48.12	2.3261	23 27 14.4	6.677					
16	4 53 7.75	2.3282	23 33 51.0	6.542					
17	4 55 27.50	2.3303	23 40 19.5	6.407					
18	4 57 47.38	2.3323	23 46 39.8	6.271					
19	5 0 7.38	2.3342	23 52 52.0	6.134					
20	5 2 27.49	2.3361	23 58 55.9	5.997					
21	5 4 47.71	2.3379	24 4 51.6	5.859					
22	5 7 8.04	2.3397	24 10 39.0	5.721					
23	5 9 28.48	2.3415	24 16 18.1	5.582					
24	5 11 49.02	2.3431	N.24° 21' 48.8"	5.442					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Aquilæ	W.	101° 21' 13"	3967	102° 46' 3"	3985	104° 10' 32"	3306	105° 34' 37"	3327
	Fomalhaut	W.	70 27 7	9923	72 5 31	9936	73 43 50	9930	75 22 4	9935
	α Pegasi	W.	53 41 49	3078	55 10 25	3080	56 39 24	3043	58 8 44	3028
	VENUS	E.	35 53 41	9943	34 20 9	9859	32 46 48	9981	31 13 39	9999
	SUN	E.	57 12 2	9754	55 36 34	9793	54 1 16	9771	52 26 10	9779
2	Fomalhaut	W.	83 31 29	9963	85 8 58	9971	86 46 17	9978	88 23 26	9986
	α Pegasi	W.	65 39 3	9984	67 9 36	9980	68 40 14	9977	70 10 56	9974
	α Arietis	W.	22 16 53	9982	23 41 26	9188	25 7 49	9114	26 35 41	9056
	SUN	E.	44 33 24	9923	42 59 26	9932	41 25 40	9949	39 52 6	9959
3	Fomalhaut	W.	96 26 28	9730	98 2 28	9740	99 38 15	9750	101 13 48	9761
	α Pegasi	W.	77 44 36	9981	79 15 13	9985	80 45 45	9999	82 16 12	9994
	α Arietis	W.	34 9 22	9988	35 41 56	9971	37 14 52	9957	38 48 6	9946
	SUN	E.	32 7 31	9934	30 35 17	9916	29 3 19	9926	27 31 36	9941
4	Fomalhaut	W.	109 7 49	9991	110 41 49	9935	112 15 31	9949	113 48 55	9964
	α Pegasi	W.	89 46 26	3032	91 15 59	3043	92 45 19	3052	94 14 27	3064
	α Arietis	W.	46 36 51	9991	48 10 51	9991	49 44 51	9992	51 18 50	9994
	SUN	E.	19 57 23	3019	18 27 34	3040	16 58 11	3065	15 29 19	3096
7	SUN	W.	16 4 54	3994	17 29 13	3993	18 53 33	3994	20 17 52	3996
	Regulus	E.	27 59 13	9931	26 27 34	9950	24 56 18	9969	23 25 26	9990
	Spica	E.	81 57 0	9983	80 24 20	9993	78 51 52	9993	77 19 37	9912
	Antares	E.	127 51 28	9981	126 18 45	9991	124 46 14	9999	123 13 54	9996
8	SUN	W.	27 18 21	3392	28 42 7	3398	30 5 46	3336	31 29 16	3343
	Spica	E.	69 41 23	9960	68 10 20	9969	66 39 28	9978	65 8 48	9967
	Antares	E.	115 35 1	9951	114 3 47	9959	112 32 43	9967	111 1 49	9976
9	SUN	W.	38 24 46	3377	39 47 29	3384	41 10 4	3390	42 32 32	3396
	Spica	E.	57 38 9	3099	56 8 32	3037	54 39 5	3044	53 9 47	3052
	Antares	E.	103 29 48	3013	101 59 51	3019	100 30 2	3036	99 0 21	3039
10	SUN	W.	49 23 12	3423	50 45 2	3427	52 6 48	3431	53 28 29	3435
	Spica	E.	45 45 34	3087	44 17 8	3094	42 48 51	3101	41 20 42	3106
	Antares	E.	91 33 46	3059	90 4 46	3064	88 35 52	3068	87 7 3	3071
11	SUN	W.	60 16 0	3447	61 37 23	3449	62 58 44	3450	64 20 4	3450
	Regulus	W.	21 8 17	3177	22 34 54	3167	24 1 43	3158	25 28 43	3151
	Spica	E.	34 1 51	3139	32 34 29	3147	31 7 16	3154	29 40 12	3162
	Antares	E.	79 43 56	3085	78 15 28	3086	76 47 1	3087	75 18 35	3087
12	SUN	W.	71 6 49	3446	72 28 14	3443	73 49 42	3440	75 11 13	3436
	Regulus	W.	32 45 48	3118	34 13 36	3113	35 41 30	3107	37 9 31	3101
	Antares	E.	67 56 28	3085	66 28 0	3089	64 59 29	3081	63 30 56	3078
	α Aquilæ	E.	112 47 22	4026	111 36 8	4005	110 24 33	3983	109 12 37	3964
13	SUN	W.	82 0 0	3412	83 22 3	3406	84 44 13	3399	86 6 31	3391
	Regulus	W.	44 31 27	3069	46 0 15	3062	47 29 11	3054	48 58 17	3046
	Antares	E.	56 7 7	3057	54 38 5	3052	53 8 57	3047	51 39 42	3040
	α Aquilæ	E.	103 8 22	3878	101 54 40	3863	100 40 43	3849	99 26 31	3835

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Aquilæ	W.	106° 58' 17"	3351	108° 21' 30"	3376	109° 44' 14"	3403	111° 6' 27"	3439
	Fomalhaut	W.	77 0 12	2640	78 38 13	2646	80 16 6	2651	81 53 52	2657
	α Pegasi	W.	59 38 22	3016	61 8 15	3005	62 38 21	2997	64 8 38	2990
	Venus	E.	29 40 41	2679	28 7 55	2689	26 35 22	2698	25 3 1	2698
	Sun	E.	50 51 14	2787	49 16 29	2796	47 41 56	2805	46 7 34	2814
2	Fomalhaut	W.	90 0 25	2694	91 37 13	2702	93 13 50	2711	94 50 15	2720
	α Pegasi	W.	71 41 41	2973	73 12 27	2974	74 43 12	2976	76 13 55	2977
	α Arietis	W.	28 4 45	3007	29 34 49	2968	31 5 42	2936	32 37 15	2909
	Sun	E.	38 18 45	2861	36 45 36	2872	35 12 41	2882	33 39 59	2893
3	Fomalhaut	W.	102 49 7	2773	104 24 11	2784	105 59 0	2796	107 33 33	2809
	α Pegasi	W.	83 46 32	3001	85 16 44	3007	86 46 48	3015	88 16 42	3023
	α Arietis	W.	40 21 34	2838	41 55 13	2831	43 29 0	2827	45 2 53	2823
	Sun	E.	26 0 9	2854	24 28 59	2869	22 58 7	2885	21 27 35	2901
4	Fomalhaut	W.	115 22 0	2679	116 54 46	2686	118 27 11	2692	119 59 15	2698
	α Pegasi	W.	95 43 21	3075	97 12 1	3068	98 40 25	3101	100 8 33	3115
	α Arietis	W.	52 52 47	2926	54 26 41	2929	56 0 31	2933	57 34 16	2938
	Sun	E.	14 1 5	3136	12 33 39	3185	11 7 12	3243	9 41 54	3316
7	Sun	W.	21 42 8	3300	23 6 20	3304	24 30 27	3310	25 54 27	3315
	Regulus	E.	21 55 1	3014	20 25 6	3041	18 55 44	3071	17 26 59	3106
	Spica	E.	75 47 34	2923	74 15 44	2931	72 44 5	2941	71 12 38	2950
	Antares	E.	121 41 45	2916	120 9 47	2926	118 38 1	2935	117 6 26	2942
8	Sun	W.	32 52 38	3350	34 15 52	3357	35 38 58	3364	37 1 56	3371
	Spica	E.	63 38 19	2996	62 8 1	3004	60 37 53	3013	59 7 56	3021
	Antares	E.	109 31 6	2994	108 0 33	2991	106 30 9	2998	104 59 54	3005
9	Sun	W.	43 54 53	3402	45 17 7	3408	46 39 15	3414	48 1 16	3418
	Spica	E.	51 40 39	3060	50 11 40	3066	48 42 49	3073	47 14 7	3081
	Antares	E.	97 30 48	3038	96 1 22	3044	94 32 4	3049	93 2 52	3054
10	Sun	W.	54 50 6	3438	56 11 39	3441	57 33 9	3444	58 54 36	3446
	Spica	E.	39 52 40	3113	38 24 46	3119	36 57 0	3125	35 29 21	3133
	Antares	E.	85 38 18	3075	84 9 38	3078	82 41 1	3080	81 12 27	3089
11	Sun	W.	65 41 24	3450	67 2 44	3449	68 24 5	3449	69 45 26	3447
	Regulus	W.	26 55 51	3143	28 23 8	3136	29 50 34	3130	31 18 7	3134
	Spica	E.	28 13 17	3170	26 46 32	3180	25 19 59	3191	23 53 39	3204
	Antares	E.	73 50 10	3087	72 21 45	3087	70 53 20	3087	69 24 55	3086
12	Sun	W.	76 32 49	3432	77 54 29	3428	79 16 14	3423	80 38 4	3418
	Regulus	W.	38 37 39	3096	40 5 54	3089	41 34 17	3082	43 2 48	3076
	Antares	E.	62 2 19	3074	60 33 38	3071	59 4 53	3067	57 36 3	3062
	α Aquilæ	E.	108 0 22	3045	106 47 48	3028	105 34 57	3011	104 21 48	3004
13	Sun	W.	87 28 58	3383	88 51 34	3375	90 14 19	3366	91 37 14	3357
	Regulus	W.	50 27 33	3038	51 56 59	3029	53 26 36	3019	54 56 25	3010
	Antares	E.	50 10 19	3034	48 40 48	3027	47 11 9	3020	45 41 21	3013
	α Aquilæ	E.	98 12 5	3021	96 57 25	3008	95 42 31	3005	94 27 24	3004

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
14	SUN W.	93° 0' 20"	3347	94° 23' 37"	3336	95° 47' 7"	3335	97° 10' 49"	3314
	Regulus W.	56 26 25	3000	57 56 38	2990	59 27 3	2979	60 57 42	2969
	Antares E.	44 11 24	3005	42 41 17	2996	41 10 59	2988	39 40 31	2979
	α Aquilæ E.	93 12 5	3772	91 56 34	3761	90 40 51	3750	89 24 57	3741
15	SUN W.	104 12 44	3252	105 37 52	3238	107 3 16	3224	108 28 57	3209
	Regulus W.	68 34 33	2907	70 6 43	2894	71 39 9	2880	73 11 53	2867
	Spica W.	15 12 59	3168	16 39 47	3112	18 7 42	3065	19 36 35	3023
	Antares E.	32 5 24	2935	30 33 49	2925	29 2 2	2917	27 30 5	2909
	α Aquilæ E.	83 3 1	3698	81 46 12	3692	80 29 16	3686	79 12 14	3681
	Fomalhaut E.	114 32 22	3097	113 4 9	3080	111 35 35	3062	110 6 39	3044
16	SUN W.	115 41 50	3132	117 9 21	3115	118 37 12	3099	120 5 23	3082
	Regulus W.	81 0 8	2793	82 34 45	2777	84 9 43	2762	85 45 1	2745
	Spica W.	27 12 18	2869	28 45 16	2845	30 18 45	2823	31 52 43	2800
	α Aquilæ E.	72 46 2	3670	71 28 43	3671	70 11 25	3674	68 54 10	3677
	Fomalhaut E.	102 36 34	2957	101 5 27	2940	99 33 59	2923	98 2 9	2905
	α Pegasi E.	120 4 3	3325	118 40 21	3294	117 16 3	3264	115 51 9	3233
17	SUN W.	127 31 30	2996	129 1 48	2979	130 32 27	2962	132 3 28	2943
	Regulus W.	93 46 58	2663	95 24 28	2646	97 2 21	2629	98 40 37	2612
	Spica W.	39 49 44	2695	41 26 31	2675	43 3 44	2656	44 41 23	2636
	α Aquilæ E.	62 29 42	3729	61 13 26	3746	59 57 28	3768	58 41 52	3792
	Fomalhaut E.	90 17 28	2980	88 43 26	2903	87 9 2	2786	85 34 16	2770
	α Pegasi E.	108 38 6	3097	107 9 53	3073	105 41 10	3048	104 11 57	3025
18	Regulus W.	106 57 47	2527	108 38 23	2510	110 19 23	2493	112 0 46	2477
	Spica W.	52 56 13	2541	54 36 29	2523	56 17 10	2504	57 58 17	2487
	α Aquilæ E.	52 31 35	3990	51 19 36	4036	50 8 32	4099	48 58 29	4169
	Fomalhaut E.	77 35 11	2692	75 58 21	2678	74 21 12	2664	72 43 44	2650
	α Pegasi E.	96 38 51	2917	95 6 54	2898	93 34 33	2880	92 1 48	2862
19	Spica W.	66 30 4	2401	68 13 38	2384	69 57 36	2368	71 41 56	2353
	Antares W.	20 43 54	2465	22 25 57	2437	24 8 39	2412	25 51 57	2389
	Fomalhaut E.	64 32 7	2593	62 53 3	2585	61 13 47	2577	59 34 20	2570
	α Pegasi E.	84 12 40	2785	82 37 52	2772	81 2 48	2761	79 27 29	2750
20	Spica W.	80 29 8	2280	82 15 37	2267	84 2 25	2254	85 49 32	2241
	Antares W.	34 36 1	2294	36 22 9	2279	38 8 40	2264	39 55 33	2249
	Fomalhaut E.	51 15 23	2558	49 35 30	2561	47 55 42	2567	46 16 2	2576
	α Pegasi E.	71 27 55	2716	69 51 37	2713	68 15 15	2713	66 38 52	2714
	α Arietis E.	113 25 48	2280	111 41 44	2263	109 57 16	2248	108 12 26	2233
21	Spica W.	94 49 26	2189	96 38 10	2180	98 27 8	2172	100 16 18	2164
	Antares W.	48 54 55	2189	50 43 39	2178	52 32 39	2170	54 21 52	2161
	α Pegasi E.	58 38 14	2751	57 2 42	2767	55 27 31	2785	53 52 44	2808
	α Arietis E.	99 23 23	2272	97 36 43	2263	95 49 49	2253	94 2 41	2245
22	Spica W.	109 24 45	2135	111 14 51	2132	113 5 2	2126	114 55 19	2126
	Antares W.	63 30 58	2127	65 21 16	2122	67 11 41	2118	69 2 13	2115
	α Arietis E.	85 4 16	2215	83 16 11	2211	81 28 0	2208	79 39 45	2206
	Aldebaran E.	115 32 44	2140	113 42 46	2136	111 52 41	2131	110 2 29	2127

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIb.	P. L. of Diff.	XXIb.	P. L. of Diff.
14	Sun W.	98° 34' 44"	3303	99° 58' 52"	3390	101° 23' 15"	3378	102° 47' 53"	3365
	Regulus W.	62 28 34	2957	63 59 41	2945	65 31 3	2933	67 2 40	2920
	Antares E.	38 9 52	2970	36 39 2	2962	35 8 1	2952	33 36 48	2943
	α Aquilæ E.	88 8 53	3731	86 52 39	3722	85 36 15	3713	84 19 42	3706
15	Sun W.	109 54 56	3194	111 21 12	3179	112 47 46	3164	114 14 38	3148
	Regulus W.	74 44 54	2952	76 18 14	2938	77 51 53	2923	79 25 51	2908
	Spica W.	21 6 19	2985	22 36 50	2953	24 8 2	2923	25 39 52	2894
	Antares E.	25 57 57	2901	24 25 40	2896	22 53 16	2891	21 20 46	2889
	α Aquilæ E.	77 55 7	3677	76 37 55	3673	75 20 39	3671	74 3 21	3670
	Fomalhaut E.	108 37 21	3097	107 7 42	3099	105 37 41	2992	104 7 18	2975
16	Sun W.	121 33 54	3065	123 2 47	3048	124 32 0	3031	126 1 34	3014
	Regulus W.	87 20 41	2759	88 56 42	2713	90 33 5	2696	92 9 50	2679
	Spica W.	33 27 11	2779	35 2 7	2756	36 37 32	2736	38 13 24	2715
	α Aquilæ E.	67 36 59	2694	66 19 55	2692	65 2 59	2702	63 46 14	2714
	Fomalhaut E.	96 29 57	2988	94 57 23	2871	93 24 27	2853	91 51 8	2837
	α Pegasi E.	114 25 39	3204	112 59 35	3177	111 32 58	3149	110 5 48	3123
17	Sun W.	133 34 52	2996	135 6 38	2909	136 38 45	2892	138 11 14	2875
	Regulus W.	100 19 16	2694	101 58 19	2677	103 37 45	2661	105 17 34	2643
	Spica W.	46 19 29	2617	47 58 1	2598	49 36 59	2579	51 16 23	2560
	α Aquilæ E.	57 26 41	2690	56 12 0	2653	54 57 52	2690	53 44 22	2639
	Fomalhaut E.	83 59 9	2753	82 23 40	2738	80 47 51	2732	79 11 41	2707
	α Pegasi E.	102 42 15	3009	101 12 5	2980	99 41 27	2958	98 10 22	2938
18	Regulus W.	113 42 32	2460	115 24 42	2444	117 7 14	2428	118 50 9	2412
	Spica W.	59 39 49	2469	61 21 46	2451	63 4 8	2434	64 46 54	2417
	α Aquilæ E.	47 49 34	2450	46 41 55	2431	45 35 40	2445	44 30 59	2433
	Fomalhaut E.	71 5 57	2638	69 27 53	2606	67 49 33	2614	66 10 57	2604
	α Pegasi E.	90 28 41	2845	88 55 11	2828	87 21 20	2813	85 47 9	2799
19	Spica W.	73 26 39	2337	75 11 44	2322	76 57 11	2308	78 42 59	2294
	Antares W.	27 35 48	2367	29 20 10	2348	31 5 0	2338	32 50 18	2311
	Fomalhaut E.	57 54 44	2564	56 15 0	2561	54 35 11	2558	52 55 18	2556
	α Pegasi E.	77 51 56	2741	76 16 10	2733	74 40 14	2725	73 4 8	2720
20	Spica W.	87 36 58	2230	89 24 41	2219	91 12 40	2208	93 0 55	2198
	Antares W.	41 42 47	2236	43 30 21	2223	45 18 15	2210	47 6 27	2200
	Fomalhaut E.	44 36 34	2568	42 57 22	2603	41 18 31	2623	39 40 7	2646
	α Pegasi E.	65 2 31	2717	63 26 14	2722	61 50 3	2729	60 14 2	2739
	α Arietis E.	106 27 15	2390	104 41 44	2307	102 55 55	2295	101 9 48	2283
21	Spica W.	102 5 40	2157	103 55 13	2151	105 44 55	2145	107 34 46	2139
	Antares W.	56 11 19	2153	58 0 58	2145	59 50 48	2139	61 40 48	2132
	α Pegasi E.	52 18 27	2235	50 44 44	2266	49 11 41	2291	47 39 24	2242
	α Arietis E.	92 15 20	2237	90 27 48	2231	88 40 6	2225	86 52 15	2219
22	Spica W.	116 45 39	2124	118 36 2	2123	120 26 26	2122	122 16 51	2123
	Antares W.	70 52 50	2112	72 43 31	2109	74 34 16	2108	76 25 3	2107
	α Arietis E.	77 51 27	2206	76 3 8	2205	74 14 48	2206	72 26 29	2207
	Aldebaran E.	108 12 11	2124	106 21 48	2122	104 31 22	2120	102 40 53	2119

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	Antares W.	78° 15' 51"	2107	80° 6' 40"	2107	81° 57' 26"	2108	83° 48' 15"	2109
	α Aquilæ W.	42 48 0	4354	43 54 3	4302	45 2 27	4067	46 13 1	3946
	α Arietis E.	70 38 12	2210	68 49 59	2212	67 1 50	2217	65 13 48	2223
	Aldebaran E.	100 50 23	2118	98 59 52	2118	97 9 21	2119	95 18 51	2121
24	Antares W.	93 1 20	2125	94 51 41	2130	96 41 55	2136	98 32 0	2141
	α Aquilæ W.	52 32 23	3514	53 52 32	3454	55 13 48	3400	56 36 5	3352
	α Arietis E.	56 16 5	2264	54 29 12	2276	52 42 37	2280	50 56 21	2303
	Aldebaran E.	86 7 15	2137	84 17 12	2141	82 27 16	2147	80 37 29	2153
	Sun E.	139 18 2	2431	137 35 12	2435	135 52 27	2439	134 9 48	2444
25	Antares W.	107 40 3	2176	109 29 6	2184	111 17 57	2193	113 6 35	2202
	α Aquilæ W.	63 39 22	3185	65 5 49	3163	66 32 43	3144	67 59 59	3128
	Fomalhaut W.	28 34 53	2997	30 5 10	2916	31 37 8	2859	33 10 29	2798
	α Arietis E.	42 11 3	2401	40 27 29	2428	38 44 34	2457	37 2 20	2420
	Aldebaran E.	71 31 0	2190	69 42 17	2198	67 53 47	2207	66 5 30	2216
	Sun E.	125 38 31	2476	123 56 44	2485	122 15 9	2493	120 33 46	2509
26	α Aquilæ W.	75 20 7	3086	76 48 34	3083	78 17 4	3083	79 45 34	3084
	Fomalhaut W.	41 11 11	2643	42 49 8	2626	44 27 28	2612	46 6 6	2603
	Aldebaran E.	57 7 48	2270	55 21 4	2261	53 34 37	2253	51 48 27	2306
	Sun E.	112 10 3	2551	110 30 0	2561	108 50 12	2579	107 10 39	2584
27	α Aquilæ W.	87 7 3	3114	88 34 56	3124	90 2 36	3135	91 30 3	3148
	Fomalhaut W.	54 21 40	2583	56 0 58	2584	57 40 15	2586	59 19 29	2588
	α Pegasi W.	39 39 27	3438	41 1 0	3373	42 23 47	3317	43 47 39	3268
	Aldebaran E.	43 2 23	2373	41 18 10	2389	39 34 19	2404	37 50 51	2421
	Venus E.	84 34 20	2726	82 58 15	2739	81 22 27	2759	79 46 56	2764
	Sun E.	98 56 49	2642	97 18 51	2654	95 41 9	2666	94 3 44	2678
28	α Aquilæ W.	98 42 58	3231	100 8 31	3251	101 33 40	3272	102 58 24	3295
	Fomalhaut W.	67 34 21	2614	69 12 57	2621	70 51 23	2629	72 29 39	2637
	α Pegasi W.	50 59 3	3107	52 27 4	3087	53 55 30	3070	55 24 16	3056
	Venus E.	71 53 28	2828	70 19 36	2841	68 46 1	2854	67 12 43	2866
	Sun E.	86 0 45	2741	84 24 59	2753	82 49 29	2766	81 14 16	2779
29	Fomalhaut W.	80 38 10	2681	82 15 16	2691	83 52 8	2701	85 28 47	2710
	α Pegasi W.	62 51 37	3015	64 21 31	3013	65 51 28	3011	67 21 27	3009
	Venus E.	59 30 16	2930	57 58 35	2942	56 27 10	2955	54 56 1	2968
	Sun E.	73 22 15	2640	71 48 39	2652	70 15 18	2664	68 42 13	2676
30	Fomalhaut W.	93 28 37	2764	95 3 52	2775	96 38 53	2787	98 13 38	2798
	α Pegasi W.	74 51 17	3020	76 21 5	3024	77 50 48	3029	79 20 25	3034
	α Arietis W.	31 13 58	2270	32 44 48	2249	34 16 5	2231	35 47 44	2216
	Venus E.	47 24 10	3030	45 54 34	3042	44 25 13	3055	42 56 8	3066
	Sun E.	61 0 41	2936	59 29 8	2949	57 57 51	2960	56 26 48	2972
31	Fomalhaut W.	106 3 31	2860	107 36 41	2873	109 9 34	2887	110 42 10	2900
	α Pegasi W.	86 46 31	3071	88 15 16	3080	89 43 50	3090	91 12 12	3099
	α Arietis W.	43 29 29	2282	45 2 11	2280	46 34 56	2279	48 7 42	2278
	Venus E.	35 34 24	3128	34 6 48	3141	32 39 28	3153	31 12 23	3167
	Sun E.	48 55 14	3030	47 25 39	3042	45 56 18	3054	44 27 12	3065

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	Antares W.	85° 39' 0"	9111	87° 29' 42"	9114	89° 20' 20"	9117	91° 10' 53"	9121
	α Aquilæ W.	47 25 34	3839	48 39 56	3744	49 55 57	3658	51 13 29	3592
	α Arietis E.	63 25 54	2229	61 38 9	2236	59 50 35	2244	58 3 13	2253
	Aldebaran E.	93 28 24	2123	91 38 0	2126	89 47 40	2129	87 57 25	2132
24	Antares W.	100 21 57	9147	102 11 44	9154	104 1 21	9161	105 50 48	9169
	α Aquilæ W.	57 59 16	3309	59 23 17	3272	60 48 1	3239	62 13 24	3209
	α Arietis E.	49 10 26	2319	47 24 54	2337	45 39 48	2356	43 55 10	2378
	Aldebaran E.	78 47 50	2159	76 58 21	2167	75 9 3	2174	73 19 56	2181
	Sun E.	132 27 16	2449	130 44 51	2455	129 2 35	2462	127 20 28	2469
25	Antares W.	114 54 59	2212	116 43 9	2221	118 31 5	2231	120 18 46	2242
	α Aquilæ W.	69 27 35	3114	70 55 27	3105	72 23 31	3096	73 51 45	3090
	Fomalhaut W.	34 44 59	2754	36 20 27	2717	37 56 44	2687	39 33 41	2663
	α Arietis E.	35 20 53	2537	33 40 18	2569	32 0 41	2617	30 22 9	2672
	Aldebaran E.	64 17 27	2227	62 29 39	2237	60 42 6	2247	58 54 49	2256
	Sun E.	118 52 35	2511	117 11 37	2520	115 30 52	2530	113 50 20	2540
26	α Aquilæ W.	81 14 3	3087	82 42 28	3091	84 10 48	3098	85 39 0	3105
	Fomalhaut W.	47 44 57	2595	49 23 59	2589	51 3 9	2586	52 42 23	2584
	Aldebaran E.	50 2 36	2318	48 17 3	2332	46 31 50	2345	44 46 56	2359
	Sun E.	105 31 22	2596	103 52 20	2607	102 13 34	2618	100 35 3	2630
27	α Aquilæ W.	92 57 14	3162	94 24 9	3178	95 50 45	3193	97 17 2	3211
	Fomalhaut W.	60 58 40	2592	62 37 46	2597	64 16 45	2606	65 55 37	2608
	α Pegasi W.	45 12 28	2225	46 38 7	2188	48 4 30	2158	49 31 30	2130
	Aldebaran E.	36 7 45	2438	34 25 4	2455	32 42 48	2474	31 0 58	2494
	Venus E.	78 11 41	2777	76 36 43	2789	75 2 1	2809	73 27 36	2815
	Sun E.	92 26 35	2691	90 49 43	2703	89 13 7	2716	87 36 48	2728
28	α Aquilæ W.	104 22 41	3320	105 46 29	3345	107 9 48	3373	108 32 35	3402
	Fomalhaut W.	74 7 44	2645	75 45 38	2653	77 23 21	2662	79 0 52	2672
	α Pegasi W.	56 53 20	3044	58 22 38	3034	59 52 9	3026	61 21 49	3020
	Venus E.	65 39 41	2879	64 6 55	2892	62 34 26	2905	61 2 13	2917
	Sun E.	79 39 20	2790	78 4 39	2803	76 30 15	2815	74 56 7	2828
29	Fomalhaut W.	87 5 13	2721	88 41 25	2732	90 17 23	2742	91 53 7	2753
	α Pegasi W.	68 51 28	3069	70 21 29	3011	71 51 28	3014	73 21 24	3016
	Venus E.	53 25 8	2990	51 54 30	2993	50 24 8	3005	48 54 1	3018
	Sun E.	67 9 24	2888	65 36 50	2901	64 4 32	2912	62 32 29	2924
30	Fomalhaut W.	99 48 8	2810	101 22 23	2822	102 56 22	2835	104 30 5	2848
	α Pegasi W.	80 49 55	3041	82 19 17	3047	83 48 31	3055	85 17 36	3063
	α Arietis W.	37 19 42	2905	38 51 54	2896	40 24 18	2890	41 56 50	2884
	Venus E.	41 27 17	3078	39 58 41	3091	38 30 20	3103	37 2 14	3116
	Sun E.	54 56 0	2984	53 25 27	2995	51 55 8	3007	50 25 4	3018
31	Fomalhaut W.	112 14 29	2914	113 46 30	2929	115 18 12	2943	116 49 36	2958
	α Pegasi W.	92 40 23	3110	94 8 21	3120	95 36 6	3132	97 3 37	3143
	α Arietis W.	49 40 29	2879	51 13 15	2881	52 45 58	2883	54 18 38	2887
	Venus E.	29 45 34	3180	28 19 1	3194	26 52 45	3208	25 26 45	3222
	Sun E.	42 58 20	3078	41 29 43	3089	40 1 20	3101	38 33 12	3114

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Subtracted from Apparent Time.				
Sat.	1	^h 8 ^m 45 ^s 21.43	9.714	N. 18° 2' 35.9"	-37.74	15' 47.97"	^s 66.64	^m 6 ^s 6.63	^s 0.143		
SUN.	2	8 49 14.25	9.689	17 47 21.2	38.47	15 48.09	66.56	6 2.91	0.168		
Mon.	3	8 53 6.48	9.664	17 31 49.1	39.19	15 48.22	66.47	5 58.60	0.193		
Tues.	4	8 56 58.11	9.640	17 15 59.8	-39.90	15 48.35	66.38	5 53 69	0.218		
Wed.	5	9 0 49.15	9.615	16 59 53.7	40 60	15 48.49	66.29	5 48.19	0.242		
Thur.	6	9 4 39.58	9.590	16 43 31.0	41.29	15 48.64	66.21	5 42.08	0.267		
Frid.	7	9 8 29.41	9.564	16 26 52.1	-41.96	15 48.79	66.12	5 35 36	0.292		
Sat.	8	9 12 18.63	9.538	16 9 57.3	42.61	15 48.94	66.04	5 28.04	0.318		
SUN.	9	9 16 7.26	9.513	15 52 46.9	43.25	15 49.10	65.95	5 20.13	0.343		
Mon.	10	9 19 55.30	9.488	15 35 21.3	-43.88	15 49.27	65.87	5 11.63	0.367		
Tues.	11	9 23 42.74	9.464	15 17 40.7	44.50	15 49.44	65.79	5 2.55	0.392		
Wed.	12	9 27 29.59	9.440	14 59 45.5	45.10	15 49.61	65.71	4 52.88	0.416		
Thur.	13	9 31 15.87	9.416	14 41 36.0	-45.68	15 49.79	65.63	4 42.63	0.440		
Frid.	14	9 35 1.58	9.393	14 23 12.5	46.26	15 49.97	65.55	4 31.82	0.463		
Sat.	15	9 38 46.74	9.370	14 4 35.4	46.83	15 50.15	65.47	4 20.45	0.486		
SUN.	16	9 42 31.35	9.348	13 45 44.9	-47.38	15 50.33	65.39	4 8.54	0.508		
Mon.	17	9 46 15 43	9.326	13 26 41.4	47.91	15 50.52	65.31	3 56.09	0.530		
Tues.	18	9 49 58.98	9.305	13 7 25.2	48.43	15 50.71	65.24	3 43.13	0.551		
Wed.	19	9 53 42.03	9.285	12 47 56.6	-48.94	15 50.90	65.17	3 29.66	0.571		
Thur.	20	9 57 24.59	9.265	12 28 15.9	49.44	15 51.09	65.10	3 15.71	0.591		
Frid.	21	10 1 6.68	9.246	12 8 23.3	49.93	15 51.28	65.03	3 1.29	0.610		
Sat.	22	10 4 48.33	9.227	11 48 19.2	-50.41	15 51.48	64.97	2 46.41	0.629		
SUN.	23	10 8 29.53	9.208	11 28 3.8	50.87	15 51.68	64.90	2 31.09	0.647		
Mon.	24	10 12 10.30	9.190	11 7 37.5	51.32	15 51.88	64.84	2 15.35	0.665		
Tues.	25	10 15 50.66	9.173	10 47 0.5	-51.76	15 52.08	64.78	1 59.20	0.682		
Wed.	26	10 19 30.63	9.157	10 26 13.2	52.18	15 52.29	64.72	1 42.66	0.698		
Thur.	27	10 23 10.22	9.142	10 5 15.8	52.59	15 52.50	64.66	1 25.74	0.713		
Frid.	28	10 26 49.45	9.127	9 44 8.7	-52.99	15 52.71	64.61	1 8.47	0.728		
Sat.	29	10 30 28.34	9.113	9 22 52.2	53.37	15 52.92	64.56	0 50.86	0.742		
SUN.	30	10 34 6.89	9.100	9 1 26.6	53.75	15 53.14	64.51	0 32.92	0.755		
Mon.	31	10 37 45.13	9.087	8 39 52.3	54.11	15 53.36	64.46	0 14.65	0.768		
Tues.	32	10 41 23.07	9.074	N. 8 18 9.5	-54.45	15 53.59	64.41	0 3.93	0.781		

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination	Diff. for 1 Hour.	Added to Mean Time.			
Sat.	1	^h 8 ^m 45 ^s 20.44	9.714	N. 18° 2' 39".7	-37.74	^m 6 ^s 6.64	0.143	^h 8 ^m 39 ^s 13.80	
SUN.	2	8 49 13.28	9.689	17 47 25.1	38.47	6 2.92	0.168	8 43 10.36	
Mon.	3	8 53 5.52	9.664	17 31 53.0	39.19	5 58.61	0.193	8 47 6.91	
Tues.	4	8 56 57.17	9.640	17 16 3.7	-39.90	5 53.71	0.218	8 51 3.46	
Wed.	5	9 0 48.22	9.615	16 59 57.6	40.60	5 48.21	0.242	8 55 0.01	
Thur.	6	9 4 38.67	9.590	16 43 34.9	41.29	5 42.10	0.267	8 58 56.57	
Frid.	7	9 8 28.52	9.565	16 26 56.0	-41.96	5 35.39	0.292	9 2 53.13	
Sat.	8	9 12 17.76	9.539	16 10 1.1	42.61	5 28.07	0.318	9 6 49.69	
SUN.	9	9 16 6.41	9.514	15 52 50.7	43.25	5 20.16	0.343	9 10 46.25	
Mon.	10	9 19 54.47	9.490	15 35 25.0	-43.88	5 11.66	0.367	9 14 42.81	
Tues.	11	9 23 41.94	9.465	15 17 44.4	44.50	5 2.58	0.392	9 18 39.36	
Wed.	12	9 27 28.82	9.441	14 59 49.1	45.10	4 52.91	0.416	9 22 35.91	
Thur.	13	9 31 15.13	9.417	14 41 39.5	-45.68	4 42.66	0.440	9 26 32.47	
Frid.	14	9 35 0.87	9.394	14 23 16.0	46.26	4 31.85	0.463	9 30 29.02	
Sat.	15	9 38 46.06	9.371	14 4 38.8	46.83	4 20.48	0.486	9 34 25.58	
SUN.	16	9 42 30.70	9.349	13 45 48.2	-47.38	4 8.57	0.508	9 38 22.13	
Mon.	17	9 46 14.81	9.327	13 26 44.6	47.92	3 56.12	0.530	9 42 18.69	
Tues.	18	9 49 58.40	9.306	13 7 28.3	48.44	3 43.16	0.551	9 46 15.24	
Wed.	19	9 53 41.49	9.286	12 47 59.5	-48.95	3 29.69	0.571	9 50 11.80	
Thur.	20	9 57 24.09	9.266	12 28 18.6	49.45	3 15.74	0.591	9 54 8.35	
Frid.	21	10 1 6.22	9.247	12 8 25.8	49.94	3 1.32	0.610	9 58 4.90	
Sat.	22	10 4 47.90	9.228	11 48 21.5	-50.42	2 46.44	0.629	10 2 1.46	
SUN.	23	10 8 29.14	9.210	11 28 5.9	50.88	2 31.12	0.647	10 5 58.02	
Mon.	24	10 12 9.95	9.192	11 7 39.4	51.33	2 15.38	0.665	10 9 54.57	
Tues.	25	10 15 50.35	9.175	10 47 2.2	-51.77	1 59.22	0.682	10 13 51.13	
Wed.	26	10 19 30.36	9.159	10 26 14.7	52.19	1 42.68	0.698	10 17 47.68	
Thur.	27	10 23 10.00	9.144	10 5 17.1	52.60	1 25.76	0.713	10 21 44.24	
Frid.	28	10 26 49.28	9.129	9 44 9.7	-53.00	1 8.49	0.728	10 25 40.79	
Sat.	29	10 30 28.21	9.115	9 22 52.9	53.38	0 50.87	0.742	10 29 37.34	
SUN.	30	10 34 6.81	9.102	9 1 27.1	53.76	0 32.92	0.755	10 33 33.89	
Mon.	31	10 37 45.10	9.089	8 39 52.5	54.12	0 14.65	0.768	10 37 30.45	
Tues.	32	10 41 23.08	9.076	N. 8 18 9.4	-54.46	0 3.93	0.781	10 41 27.01	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 hour,
+ 9".8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.	
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	213	128° 54' 24.4	54' 8.9	143.59	+ 0.31	0.0063828	-23.1	^h 15 ^m 18 ^s 15.36	
2	214	129 51 51.2	51 35.6	143.64	0.42	0.0063261	24.1	15 14 19.45	
3	215	130 49 19.1	49 3.4	143.68	0.51	0.0062670	25.1	15 10 23.54	
4	216	131 46 48.0	46 32.1	143.73	+ 0.58	0.0062055	-26.1	15 6 27.63	
5	217	132 44 17.9	44 1.8	143.77	0.62	0.0061416	27.1	15 2 31.72	
6	218	133 41 48.9	41 32.6	143.81	0.63	0.0060753	28.1	14 58 35.81	
7	219	134 39 20.9	39 4.5	143.85	+ 0.61	0.0060067	-29.0	14 54 39.90	
8	220	135 36 53.7	36 37.2	143.89	0.56	0.0059359	29.9	14 50 43.99	
9	221	136 34 27.4	34 10.7	143.93	0.49	0.0058630	30.8	14 46 48.09	
10	222	137 32 2.1	31 45.2	143.96	+ 0.39	0.0057879	-31.7	14 42 52.17	
11	223	138 29 37.7	29 20.7	144.00	0.27	0.0057108	32.5	14 38 56.26	
12	224	139 27 14.3	26 57.2	144.04	+ 0.14	0.0056320	33.2	14 35 0.35	
13	225	140 24 51.8	24 34.6	144.08	0.00	0.0055517	-33.8	14 31 4.44	
14	226	141 22 30.3	22 12.9	144.13	- 0.14	0.0054699	34.4	14 27 8.53	
15	227	142 20 9.8	19 52.3	144.17	0.27	0.0053868	34.9	14 23 12.62	
16	228	143 17 50.3	17 32.7	144.21	- 0.38	0.0053024	-35.4	14 19 16.71	
17	229	144 15 31.9	15 14.2	144.26	0.47	0.0052169	35.8	14 15 20.80	
18	230	145 13 14.8	12 57.0	144.31	0.53	0.0051305	36.2	14 11 24.89	
19	231	146 10 59.0	10 41.0	144.37	- 0.56	0.0050432	-36.6	14 7 28.98	
20	232	147 8 44.6	8 26.4	144.43	0.57	0.0049549	36.9	14 3 33.07	
21	233	148 6 31.6	6 13.3	144.49	0.55	0.0048658	37.3	13 59 37.16	
22	234	149 4 20.1	4 1.7	144.56	- 0.49	0.0047758	-37.7	13 55 41.25	
23	235	150 2 10.3	1 51.8	144.63	0.40	0.0046849	38.1	13 51 45.35	
24	236	150 60 2.2	59 43.5	144.70	0.29	0.0045931	38.5	13 47 49.44	
25	237	151 57 55.8	57 37.0	144.77	- 0.17	0.0045003	-38.9	13 43 53.53	
26	238	152 55 51.2	55 32.3	144.85	- 0.05	0.0044063	39.4	13 39 57.62	
27	239	153 53 48.4	53 29.4	144.92	+ 0.08	0.0043110	39.9	13 36 1.72	
28	240	154 51 47.5	51 28.4	145.00	+ 0.20	0.0042144	-40.5	13 32 5.81	
29	241	155 49 48.5	49 29.2	145.08	0.31	0.0041165	41.1	13 28 9.90	
30	242	156 47 51.4	47 32.0	145.16	0.41	0.0040171	41.7	13 24 13.99	
31	243	157 45 56.1	45 36.6	145.24	0.49	0.0039160	42.5	13 20 18.08	
32	244	158 44 2.7	43 43.1	145.31	+ 0.54	0.0038131	-43.3	13 16 22.17	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.									Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S								
	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 19.6	15' 15.5	56' 8.2	-1.29	55' 53.1	-1.24	22 17.8	2.24	26.3
2	15 11.5	15 7.8	55 38.7	1.18	55 25.0	1.11	23 10.9	2.16	27.3
3	15 4.3	15 1.0	55 12.1	1.05	54 59.9	0.98	6		28.3
4	14 57.9	14 55.1	54 48.6	-0.91	54 38.2	-0.83	0 1.3	2.04	29.3
5	14 52.5	14 50.3	54 28.9	0.74	54 20.7	0.64	0 48.7	1.91	0.8
6	14 48.4	14 46.9	54 13.8	0.52	54 8.2	0.41	1 33.2	1.80	1.8
7	14 45.8	14 45.1	54 4.1	-0.27	54 1.7	-0.13	2 15.1	1.71	2.8
8	14 45.0	14 45.3	54 1.1	+0.03	54 2.4	+0.20	2 55.5	1.67	3.8
9	14 46.2	14 47.8	54 5.8	0.38	54 11.4	0.56	3 35.1	1.66	4.8
10	14 49.9	14 52.7	54 19.2	+0.76	54 29.4	+0.95	4 15.0	1.69	5.8
11	14 56.1	15 0.2	54 42.0	1.16	54 57.0	1.35	4 56.2	1.77	6.8
12	15 4.9	15 10.3	55 14.3	1.55	55 34.0	1.74	5 40.0	1.90	7.8
13	15 16.2	15 22.7	55 55.9	+1.91	56 19.8	+2.07	6 27.4	2.06	8.8
14	15 29.7	15 37.1	56 45.4	2.20	57 12.4	2.30	7 19.1	2.25	9.8
15	15 44.7	15 52.5	57 40.5	2.36	58 9.1	2.39	8 15.3	2.42	10.8
16	16 0.3	16 7.9	58 37.7	+2.36	59 5.6	+2.28	9 15.2	2.53	11.8
17	16 15.1	16 21.8	59 32.2	2.14	59 56.8	1.94	10 16.9	2.56	12.8
18	16 27.8	16 32.8	60 18.7	1.69	60 37.3	1.40	11 18.1	2.50	13.8
19	16 36.9	16 39.7	60 52.1	+1.05	61 2.5	+0.88	12 17.0	2.39	14.8
20	16 41.3	16 41.6	61 8.3	+0.30	61 9.5	-0.11	13 12.8	2.27	15.8
21	16 40.6	16 38.4	61 5.9	-0.49	60 57.8	0.85	14 6.0	2.18	16.8
22	16 35.1	16 30.9	60 45.7	-1.16	60 30.0	-1.44	14 57.3	2.13	17.8
23	16 25.8	16 20.0	60 11.3	1.67	59 50.1	1.84	15 48.1	2.12	18.8
24	16 13.8	16 7.2	59 27.2	1.97	59 3.0	2.06	16 39.2	2.15	19.8
25	16 0.4	15 53.6	58 38.2	-2.08	58 13.2	-2.07	17 31.4	2.20	20.8
26	15 46.9	15 40.4	57 48.6	2.03	57 24.6	1.97	18 24.9	2.25	21.8
27	15 34.1	15 28.1	57 1.5	1.88	56 39.5	1.79	19 19.5	2.27	22.8
28	15 22.5	15 17.2	56 18.8	-1.67	55 59.5	-1.55	20 14.0	2.24	23.8
29	15 12.4	15 7.9	55 41.7	1.43	55 25.4	1.30	21 7.2	2.17	24.8
30	15 3.9	15 0.2	55 10.5	1.19	54 57.0	1.07	21 58.0	2.06	25.8
31	14 56.9	14 54.0	54 45.0	0.95	54 34.3	0.84	22 46.0	1.94	26.8
32	14 51.5	14 49.3	54 25.0	-0.73	54 16.9	-0.62	23 31.1	1.82	27.8

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 1.					MONDAY 3.				
0	h m s		N. 25° 51' 32.4"	2.012	0	h m s		N. 24° 45' 37.4"	4.584
1	6 8 21.02	2.3603	25 53 28.8	1.867	1	8 1 56.33	2.9477	24 40 58.6	4.707
2	6 10 42.63	2.3600	25 55 16.4	1.722	2	8 4 10.82	2.9394	24 36 12.5	4.829
3	6 15 25.78	2.3591	25 56 55.4	1.577	3	8 6 25.05	2.9351	24 31 19.1	4.950
4	6 17 47.31	2.3585	25 58 25.7	1.432	4	8 8 39.03	2.9308	24 26 18.5	5.071
5	6 20 8.80	2.3578	25 59 47.3	1.287	5	8 10 52.75	2.9266	24 21 10.6	5.191
6	6 22 30.25	2.3571	26 1 0.2	1.143	6	8 13 6.22	2.9223	24 15 55.6	5.309
7	6 24 51.65	2.3562	26 2 4.5	0.999	7	8 15 19.42	2.9178	24 10 33.5	5.427
8	6 27 12.99	2.3559	26 3 0.1	0.855	8	8 17 32.35	2.9133	24 5 4.3	5.545
9	6 29 34.27	2.3542	26 3 47.1	0.711	9	8 19 45.02	2.9089	23 59 28.1	5.661
10	6 31 55.49	2.3530	26 4 25.4	0.567	10	8 21 57.42	2.9043	23 53 45.0	5.776
11	6 34 16.63	2.3517	26 4 55.1	0.423	11	8 24 9.54	2.9197	23 47 55.0	5.890
12	6 36 37.69	2.3504	26 5 16.2	0.280	12	8 26 21.38	2.1950	23 41 58.2	6.003
13	6 38 58.67	2.3490	26 5 28.7	+ 0.137	13	8 28 32.94	2.1904	23 35 54.6	6.116
14	6 41 19.57	2.3475	26 5 32.6	- 0.006	14	8 30 44.23	2.1858	23 29 44.2	6.228
15	6 43 40.37	2.3459	26 5 27.9	- 0.149	15	8 32 55.24	2.1819	23 23 27.2	6.338
16	6 46 1.07	2.3442	26 5 14.7	0.291	16	8 35 5.97	2.1764	23 17 3.6	6.448
17	6 48 21.67	2.3425	26 4 53.0	0.434	17	8 37 16.41	2.1716	23 10 33.4	6.558
18	6 50 42.17	2.3406	26 4 22.7	0.576	18	8 39 26.56	2.1668	23 3 56.6	6.667
19	6 53 2.55	2.3386	26 3 43.9	0.717	19	8 41 36.42	2.1620	22 57 13.4	6.773
20	6 55 22.80	2.3365	26 2 56.7	0.857	20	8 43 46.00	2.1579	22 50 23.8	6.879
21	6 57 42.93	2.3344	26 2 1.1	0.997	21	8 45 55.29	2.1534	22 43 27.9	6.984
22	7 0 2.93	2.3322	26 0 57.0	1.138	22	8 48 4.29	2.1475	22 36 25.7	7.088
23	7 2 22.80	2.3300	N. 25 59 44.5	1.278	23	8 50 12.99	2.1426	N. 22 29 17.3	7.191
SUNDAY 2.					TUESDAY 4.				
0	7 4 42.53	2.3277	N. 25 58 23.6	1.417	0	8 52 21.40	2.1377	N. 22 22 2.8	7.293
1	7 7 2.12	2.3259	25 56 54.4	1.556	1	8 54 29.52	2.1328	22 14 42.2	7.394
2	7 9 21.55	2.3225	25 55 16.9	1.694	2	8 56 37.34	2.1279	22 7 15.5	7.495
3	7 11 40.82	2.3198	25 53 31.1	1.832	3	8 58 44.87	2.1230	21 59 42.8	7.594
4	7 13 59.93	2.3171	25 51 37.0	1.970	4	9 0 52.10	2.1180	21 52 4.2	7.692
5	7 16 18.88	2.3144	25 49 34.7	2.107	5	9 2 59.03	2.1131	21 44 19.7	7.790
6	7 18 37.66	2.3116	25 47 24.2	2.243	6	9 5 5.67	2.1082	21 36 29.4	7.887
7	7 20 56.27	2.3086	25 45 5.5	2.379	7	9 7 12.01	2.1033	21 28 33.3	7.982
8	7 23 14.69	2.3055	25 42 38.7	2.514	8	9 9 18.05	2.0982	21 20 31.6	8.075
9	7 25 32.93	2.3024	25 40 3.9	2.648	9	9 11 23.80	2.0933	21 12 24.3	8.168
10	7 27 50.98	2.2992	25 37 21.0	2.782	10	9 13 29.25	2.0883	21 4 11.4	8.261
11	7 30 8.84	2.2960	25 34 30.1	2.915	11	9 15 34.40	2.0834	20 55 52.9	8.353
12	7 32 26.50	2.2927	25 31 31.2	3.047	12	9 17 39.26	2.0785	20 47 29.0	8.443
13	7 34 43.96	2.2893	25 28 24.4	3.179	13	9 19 43.82	2.0735	20 38 59.7	8.532
14	7 37 1.21	2.2858	25 25 9.7	3.311	14	9 21 48.08	2.0685	20 30 25.1	8.621
15	7 39 18.25	2.2823	25 21 47.1	3.443	15	9 23 52.04	2.0636	20 21 45.2	8.708
16	7 41 35.08	2.2788	25 18 16.7	3.575	16	9 25 55.71	2.0587	20 13 0.1	8.795
17	7 43 51.70	2.2752	25 14 38.5	3.701	17	9 27 59.09	2.0538	20 4 9.8	8.881
18	7 46 8.10	2.2714	25 10 52.6	3.829	18	9 30 2.17	2.0489	19 55 14.4	8.965
19	7 48 24.27	2.2676	25 6 59.0	3.956	19	9 32 4.96	2.0441	19 46 14.0	9.048
20	7 50 40.21	2.2637	25 2 57.8	4.083	20	9 34 7.46	2.0392	19 37 8.6	9.131
21	7 52 55.91	2.2598	24 58 49.0	4.210	21	9 36 9.66	2.0343	19 27 58.3	9.212
22	7 55 11.38	2.2558	24 54 32.6	4.336	22	9 38 11.57	2.0294	19 18 43.1	9.292
23	7 57 26.61	2.2518	24 50 8.7	4.460	23	9 40 13.19	2.0246	19 9 23.1	9.372
24	7 59 41.59	2.2477	N. 24 45 37.4	4.584	24	9 42 14.53	2.0199	N. 18 59 58.4	9.451

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 5.					FRIDAY 7.				
0	9 42 14.53	2.0199	N. 18° 59' 58.4"	9.451	0	11 14 16.64	1.8313	N. 10° 13' 31.9"	12.144
1	9 44 15.58	2.0151	18 50 29.0	9.528	1	11 16 6.43	1.8285	10 1 22.2	12.179
2	9 46 16.34	2.0103	18 40 55.0	9.605	2	11 17 56.06	1.8257	9 49 10.4	12.214
3	9 48 16.82	2.0056	18 31 16.4	9.681	3	11 19 45.52	1.8231	9 36 56.5	12.248
4	9 50 17.01	2.0008	18 21 33.3	9.756	4	11 21 34.83	1.8206	9 24 40.6	12.281
5	9 52 16.92	1.9969	18 11 45.7	9.830	5	11 23 23.99	1.8180	9 12 22.8	12.313
6	9 54 16.55	1.9915	18 1 53.7	9.902	6	11 25 12.99	1.8155	9 0 3.1	12.344
7	9 56 15.90	1.9868	17 51 57.4	9.974	7	11 27 1.85	1.8131	8 47 41.5	12.375
8	9 58 14.97	1.9822	17 41 56.8	10.045	8	11 28 50.57	1.8107	8 35 18.1	12.406
9	10 0 13.77	1.9777	17 31 52.0	10.115	9	11 30 39.14	1.8084	8 22 52.8	12.436
10	10 2 12.30	1.9733	17 21 43.0	10.184	10	11 32 27.58	1.8062	8 10 25.8	12.464
11	10 4 10.56	1.9687	17 11 29.9	10.252	11	11 34 15.89	1.8041	7 57 57.2	12.491
12	10 6 8.54	1.9642	17 1 12.7	10.320	12	11 36 4.07	1.8020	7 45 26.9	12.518
13	10 8 6.26	1.9597	16 50 51.5	10.386	13	11 37 52.13	1.7999	7 32 55.0	12.544
14	10 10 3.71	1.9553	16 40 26.4	10.450	14	11 39 40.06	1.7978	7 20 21.6	12.570
15	10 12 0.90	1.9509	16 29 57.5	10.514	15	11 41 27.87	1.7959	7 7 46.6	12.596
16	10 13 57.82	1.9466	16 19 24.7	10.578	16	11 43 15.57	1.7941	6 55 10.1	12.620
17	10 15 54.49	1.9423	16 8 48.1	10.641	17	11 45 3.16	1.7923	6 42 32.2	12.643
18	10 17 50.90	1.9381	15 58 7.8	10.702	18	11 46 50.64	1.7905	6 29 53.0	12.665
19	10 19 47.06	1.9338	15 47 23.9	10.762	19	11 48 38.02	1.7888	6 17 12.4	12.687
20	10 21 42.96	1.9296	15 36 36.3	10.822	20	11 50 25.30	1.7872	6 4 30.5	12.709
21	10 23 38.61	1.9254	15 25 45.2	10.881	21	11 52 12.48	1.7856	5 51 47.3	12.730
22	10 25 34.01	1.9213	15 14 50.6	10.939	22	11 53 59.57	1.7842	5 39 2.9	12.750
23	10 27 29.17	1.9173	N. 15° 3' 52.5"	10.997	23	11 55 46.58	1.7827	N. 5° 26' 17.3"	12.769
THURSDAY 6.					SATURDAY 8.				
0	10 29 24.09	1.9133	N. 14° 52' 51.0"	11.053	0	11 57 33.50	1.7813	N. 5° 13' 30.6"	12.788
1	10 31 18.77	1.9093	14 41 46.2	11.108	1	11 59 20.34	1.7800	5 0 42.8	12.806
2	10 33 13.21	1.9053	14 30 38.1	11.162	2	12 1 7.10	1.7788	4 47 53.9	12.823
3	10 35 7.41	1.9014	14 19 26.8	11.215	3	12 2 53.79	1.7776	4 35 4.0	12.839
4	10 37 1.38	1.8976	14 8 12.3	11.268	4	12 4 40.41	1.7765	4 22 13.2	12.855
5	10 38 55.13	1.8939	13 56 54.7	11.320	5	12 6 26.97	1.7754	4 9 21.4	12.871
6	10 40 48.65	1.8901	13 45 33.9	11.373	6	12 8 13.46	1.7743	3 56 28.7	12.886
7	10 42 41.94	1.8863	13 34 10.1	11.421	7	12 9 59.89	1.7734	3 43 35.1	12.899
8	10 44 35.01	1.8827	13 22 43.4	11.470	8	12 11 46.27	1.7726	3 30 40.8	12.912
9	10 46 27.87	1.8792	13 11 13.7	11.519	9	12 13 32.61	1.7719	3 17 45.7	12.924
10	10 48 20.51	1.8756	12 59 41.1	11.566	10	12 15 18.90	1.7712	3 4 49.9	12.936
11	10 50 12.94	1.8721	12 48 5.8	11.612	11	12 17 5.15	1.7704	2 51 53.4	12.947
12	10 52 5.16	1.8687	12 36 27.7	11.658	12	12 18 51.35	1.7698	2 38 56.2	12.958
13	10 53 57.18	1.8652	12 24 46.8	11.703	13	12 20 37.52	1.7693	2 25 58.4	12.968
14	10 55 48.99	1.8618	12 13 3.3	11.747	14	12 22 23.66	1.7688	2 13 0.1	12.977
15	10 57 40.60	1.8586	12 1 17.2	11.790	15	12 24 9.78	1.7685	2 0 1.2	12.986
16	10 59 32.02	1.8553	11 49 28.5	11.833	16	12 25 55.88	1.7682	1 47 1.8	12.993
17	11 1 23.24	1.8521	11 37 37.2	11.875	17	12 27 41.96	1.7678	1 34 2.0	13.000
18	11 3 14.27	1.8490	11 25 43.5	11.915	18	12 29 28.02	1.7676	1 21 1.8	13.007
19	11 5 5.11	1.8458	11 13 47.4	11.955	19	12 31 14.07	1.7675	1 8 1.2	13.013
20	11 6 55.77	1.8428	11 1 48.9	11.995	20	12 33 0.12	1.7675	0 55 0.3	13.018
21	11 8 46.25	1.8398	10 49 48.0	12.034	21	12 34 46.17	1.7675	0 41 59.0	13.023
22	11 10 36.55	1.8369	10 37 44.8	12.072	22	12 36 32.22	1.7675	0 28 57.5	13.027
23	11 12 26.68	1.8341	10 25 39.4	12.108	23	12 38 18.27	1.7676	0 15 55.8	13.030
24	11 14 16.64	1.8313	N. 10° 13' 31.9"	12.144	24	12 40 4.33	1.7678	N. 0° 2' 53.9"	13.033

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 9.					TUESDAY 11.				
0	^h 12 ^m 40 ^s 4.33	1.7678	N. 0° 2' 53.9"	13.033	0	^h 14 ^m 6 ^s 29.22	1.8800	S. 10° 13' 4.6"	12.366
1	12 41 50.40	1.7681	S. 0 10 8.2	13.035	1	14 8 20.93	1.8637	10 25 25.6	12.334
2	12 43 36.50	1.7685	0 23 10.3	13.036	2	14 10 12.86	1.8674	10 37 44.7	12.302
3	12 45 22.62	1.7689	0 36 12.5	13.037	3	14 12 5.01	1.8712	10 50 1.8	12.268
4	12 47 8.77	1.7694	0 49 14.7	13.037	4	14 13 57.40	1.8751	11 2 16.9	12.234
5	12 48 54.95	1.7699	1 2 16.9	13.036	5	14 15 50.02	1.8790	11 14 29.9	12.199
6	12 50 41.16	1.7705	1 15 19.0	13.035	6	14 17 42.88	1.8830	11 26 40.8	12.163
7	12 52 27.41	1.7712	1 28 21.1	13.033	7	14 19 35.98	1.8871	11 38 49.5	12.127
8	12 54 13.71	1.7720	1 41 23.0	13.030	8	14 21 29.33	1.8913	11 50 56.0	12.089
9	12 56 0.05	1.7728	1 54 24.7	13.027	9	14 23 22.94	1.8956	12 3 0.2	12.050
10	12 57 46.44	1.7737	2 7 26.2	13.023	10	14 25 16.80	1.8999	12 15 2.0	12.011
11	12 59 32.89	1.7747	2 20 27.4	13.018	11	14 27 10.92	1.9042	12 27 1.5	11.972
12	13 1 19.40	1.7757	2 33 28.4	13.013	12	14 29 5.31	1.9087	12 38 58.6	11.931
13	13 3 5.98	1.7768	2 46 29.0	13.007	13	14 30 59.97	1.9132	12 50 53.2	11.888
14	13 4 52.62	1.7779	2 59 29.2	13.001	14	14 32 54.90	1.9177	13 2 45.2	11.845
15	13 6 39.33	1.7792	3 12 29.1	12.994	15	14 34 50.10	1.9223	13 14 34.6	11.802
16	13 8 26.12	1.7805	3 25 28.5	12.986	16	14 36 45.58	1.9271	13 26 21.4	11.757
17	13 10 12.99	1.7818	3 38 27.4	12.977	17	14 38 41.35	1.9319	13 38 5.5	11.712
18	13 11 59.94	1.7832	3 51 25.8	12.968	18	14 40 37.41	1.9367	13 49 46.8	11.665
19	13 13 46.98	1.7848	4 4 23.6	12.958	19	14 42 33.76	1.9417	14 1 25.3	11.617
20	13 15 34.12	1.7865	4 17 20.8	12.948	20	14 44 30.41	1.9467	14 13 0.9	11.569
21	13 17 21.36	1.7882	4 30 17.4	12.937	21	14 46 27.36	1.9518	14 24 33.6	11.520
22	13 19 8.70	1.7899	4 43 13.3	12.925	22	14 48 24.62	1.9569	14 36 3.3	11.470
23	13 20 56.14	1.7916	S. 4 56 8.4	12.912	23	14 50 22.19	1.9621	S. 14 47 30.0	11.419
MONDAY 10.					WEDNESDAY 12.				
0	13 22 43.69	1.7934	S. 5 9 2.7	12.898	0	14 52 20.07	1.9673	S. 14 58 53.6	11.367
1	13 24 31.35	1.7954	5 21 56.2	12.885	1	14 54 18.27	1.9727	15 10 14.0	11.313
2	13 26 19.14	1.7975	5 34 48.9	12.871	2	14 56 16.79	1.9781	15 21 31.2	11.259
3	13 28 7.05	1.7996	5 47 40.7	12.855	3	14 58 15.64	1.9835	15 32 45.1	11.203
4	13 29 55.09	1.8017	6 0 31.5	12.839	4	15 0 14.81	1.9890	15 43 55.6	11.147
5	13 31 43.26	1.8039	6 13 21.3	12.823	5	15 2 14.32	1.9946	15 55 2.7	11.090
6	13 33 31.56	1.8063	6 26 10.2	12.806	6	15 4 14.16	2.0002	16 6 6.4	11.032
7	13 35 20.00	1.8086	6 38 58.0	12.787	7	15 6 14.34	2.0059	16 17 6.5	10.972
8	13 37 8.59	1.8111	6 51 44.6	12.767	8	15 8 14.87	2.0117	16 28 3.0	10.912
9	13 38 57.33	1.8137	7 4 30.1	12.748	9	15 10 15.74	2.0175	16 38 55.9	10.851
10	13 40 46.23	1.8162	7 17 14.4	12.728	10	15 12 16.97	2.0234	16 49 45.1	10.788
11	13 42 35.28	1.8188	7 29 57.5	12.707	11	15 14 18.55	2.0293	17 0 30.4	10.723
12	13 44 24.49	1.8216	7 42 39.3	12.686	12	15 16 20.49	2.0353	17 11 11.8	10.658
13	13 46 13.87	1.8244	7 55 19.8	12.663	13	15 18 22.79	2.0414	17 21 49.3	10.593
14	13 48 3.42	1.8272	8 7 58.9	12.640	14	15 20 25.46	2.0475	17 32 22.9	10.526
15	13 49 53.14	1.8302	8 20 36.6	12.616	15	15 22 28.49	2.0537	17 42 52.4	10.457
16	13 51 43.04	1.8332	8 33 12.8	12.591	16	15 24 31.90	2.0599	17 53 17.8	10.388
17	13 53 33.13	1.8363	8 45 47.5	12.566	17	15 26 35.68	2.0662	18 3 39.0	10.317
18	13 55 23.40	1.8395	8 58 20.7	12.540	18	15 28 39.84	2.0725	18 13 55.9	10.246
19	13 57 13.87	1.8427	9 10 52.3	12.513	19	15 30 44.38	2.0789	18 24 8.5	10.173
20	13 59 4.53	1.8460	9 23 22.2	12.485	20	15 32 49.31	2.0853	18 34 16.7	10.098
21	14 0 55.39	1.8493	9 35 50.5	12.457	21	15 34 54.62	2.0917	18 44 20.3	10.023
22	14 2 46.45	1.8526	9 48 17.0	12.427	22	15 37 0.32	2.0983	18 54 19.4	9.947
23	14 4 37.73	1.8564	10 0 41.7	12.397	23	15 39 6.42	2.1050	19 4 13.9	9.870
24	14 6 29.22	1.8600	S. 10 13 4.6	12.366	24	15 41 12.92	2.1116	S. 19 14 3.8	9.792

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 13.					SATURDAY 15.				
0	^h 15 ^m 41 ^s 12.92	2.1116	S. 19° 14' 3.8"	9.799	0	^h 17 ^m 30 ^s 39.36	2.4477	S. 25° 8' 8.7"	4.434
1	15 43 19.81	2.1189	19 23 48.9	9.711	1	17 33 6.42	2.4549	25 12 30.4	4.389
2	15 45 27.10	2.1249	19 33 29.1	9.629	2	17 35 33.86	2.4605	25 16 43.4	4.143
3	15 47 34.80	2.1317	19 43 4.4	9.547	3	17 38 1.68	2.4668	25 20 47.6	3.995
4	15 49 42.91	2.1385	19 52 34.7	9.463	4	17 40 29.88	2.4731	25 24 42.8	3.645
5	15 51 51.42	2.1453	20 1 59.9	9.378	5	17 42 58.45	2.4792	25 28 29.0	3.695
6	15 54 0.34	2.1522	20 11 20.0	9.293	6	17 45 27.39	2.4853	25 32 6.2	3.543
7	15 56 9.68	2.1591	20 20 34.9	9.204	7	17 47 56.69	2.4913	25 35 34.2	3.390
8	15 58 19.43	2.1660	20 29 44.5	9.114	8	17 50 26.35	2.4971	25 38 53.0	3.237
9	16 0 29.60	2.1729	20 38 48.6	9.023	9	17 52 56.35	2.5029	25 42 2.6	3.082
10	16 2 40.18	2.1799	20 47 47.3	8.939	10	17 55 26.70	2.5087	25 45 2.8	2.924
11	16 4 51.19	2.1870	20 56 40.5	8.840	11	17 57 57.40	2.5144	25 47 53.5	2.766
12	16 7 2.62	2.1940	21 5 28.1	8.746	12	18 0 28.43	2.5199	25 50 34.7	2.607
13	16 9 14.47	2.2011	21 14 10.0	8.650	13	18 2 59.79	2.5253	25 53 6.3	2.447
14	16 11 26.75	2.2082	21 22 46.1	8.553	14	18 5 31.47	2.5307	25 55 28.3	2.286
15	16 13 39.46	2.2154	21 31 16.4	8.456	15	18 8 3.47	2.5359	25 57 40.6	2.133
16	16 15 52.60	2.2225	21 39 40.8	8.356	16	18 10 35.78	2.5411	25 59 43.1	1.980
17	16 18 6.16	2.2296	21 47 59.1	8.254	17	18 13 8.40	2.5461	26 1 35.8	1.796
18	16 20 20.15	2.2368	21 56 11.3	8.153	18	18 15 41.31	2.5509	26 3 18.6	1.630
19	16 22 34.57	2.2440	22 4 17.4	8.049	19	18 18 14.51	2.5557	26 4 51.4	1.463
20	16 24 49.43	2.2512	22 12 17.2	7.943	20	18 20 48.00	2.5604	26 6 14.2	1.296
21	16 27 4.72	2.2584	22 20 10.6	7.837	21	18 23 21.76	2.5649	26 7 27.0	1.128
22	16 29 20.44	2.2656	22 27 57.6	7.729	22	18 25 55.79	2.5693	26 8 29.6	0.968
23	16 31 36.59	2.2728	S. 22° 35' 38.1"	7.620	23	18 28 30.08	2.5737	S. 26° 9' 22.0"	0.787
FRIDAY 14.					SUNDAY 16.				
0	16 33 53.18	2.2801	S. 22° 43' 12.0"	7.509	0	18 31 4.63	2.5778	S. 26° 10' 4.1"	0.616
1	16 36 10.20	2.2873	22 50 39.2	7.397	1	18 33 39.42	2.5818	26 10 35.9	0.444
2	16 38 27.66	2.2946	22 57 59.7	7.284	2	18 36 14.45	2.5857	26 10 57.4	0.279
3	16 40 45.55	2.3018	23 5 13.3	7.169	3	18 38 49.71	2.5895	26 11 8.6	- 0.099
4	16 43 3.87	2.3089	23 12 20.0	7.053	4	18 41 25.19	2.5932	26 11 9.3	+ 0.078
5	16 45 22.62	2.3161	23 19 19.7	6.936	5	18 44 0.89	2.5967	26 10 59.5	0.251
6	16 47 41.81	2.3233	23 26 12.3	6.817	6	18 46 36.80	2.6001	26 10 39.2	0.427
7	16 50 1.42	2.3305	23 32 57.7	6.696	7	18 49 12.90	2.6039	26 10 8.3	0.603
8	16 52 21.47	2.3377	23 39 35.8	6.574	8	18 51 49.19	2.6063	26 9 26.8	0.780
9	16 54 41.95	2.3449	23 46 6.6	6.459	9	18 54 25.66	2.6099	26 8 34.7	0.957
10	16 57 2.86	2.3520	23 52 30.0	6.337	10	18 57 2.30	2.6121	26 7 31.9	1.136
11	16 59 24.19	2.3591	23 58 45.8	6.200	11	18 59 39.11	2.6147	26 6 18.4	1.315
12	17 1 45.95	2.3662	24 4 54.0	6.079	12	19 2 16.07	2.6179	26 4 54.1	1.494
13	17 4 8.13	2.3733	24 10 54.5	5.943	13	19 4 53.18	2.6197	26 3 19.1	1.673
14	17 6 30.73	2.3802	24 16 47.2	5.813	14	19 7 30.43	2.6218	26 1 33.3	1.853
15	17 8 53.75	2.3872	24 22 32.1	5.689	15	19 10 7.80	2.6238	25 59 36.7	2.033
16	17 11 17.19	2.3941	24 28 9.1	5.549	16	19 12 45.29	2.6257	25 57 29.3	2.214
17	17 13 41.04	2.4009	24 33 38.0	5.414	17	19 15 22.89	2.6276	25 55 11.0	2.396
18	17 16 5.30	2.4078	24 38 58.8	5.278	18	19 18 0.60	2.6299	25 52 41.8	2.577
19	17 18 29.97	2.4146	24 44 11.4	5.141	19	19 20 38.40	2.6307	25 50 1.7	2.758
20	17 20 55.05	2.4213	24 49 15.7	5.009	20	19 23 16.28	2.6320	25 47 10.8	2.939
21	17 23 20.53	2.4280	24 54 11.7	4.863	21	19 25 54.24	2.6339	25 44 9.0	3.129
22	17 25 46.41	2.4347	24 58 59.3	4.729	22	19 28 32.27	2.6342	25 40 56.2	3.304
23	17 28 12.69	2.4419	25 3 38.3	4.578	23	19 31 10.35	2.6351	25 37 32.5	3.486
24	17 30 39.36	2.4477	S. 25° 8' 8.7"	4.434	24	19 33 48.48	2.6358	S. 25° 33' 57.9"	3.667

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 17.					WEDNESDAY 19.				
0	^h 19 ^m 33 ^s 48.48	2.6356	S. 25° 33' 57.9"	3.667	0	^h 21 ^m 38 ^s 35.22	2.5919	S. 19° 17' 28.5"	11.653
1	19 36 26.65	2.6364	25 30 12.4	3.849	1	21 41 6.36	2.5167	19 5 45.2	11.789
2	19 39 4.85	2.6367	25 26 16.0	4.032	2	21 43 37.23	2.5192	18 53 53.8	11.923
3	19 41 43.06	2.6369	25 22 8.6	4.214	3	21 46 7.83	2.5077	18 41 54.4	12.056
4	19 44 21.28	2.6371	25 17 50.3	4.395	4	21 48 38.15	2.5030	18 29 47.1	12.187
5	19 46 59.51	2.6372	25 13 21.2	4.576	5	21 51 8.19	2.4984	18 17 32.0	12.317
6	19 49 37.74	2.6370	25 8 41.2	4.757	6	21 53 37.95	2.4937	18 5 9.1	12.444
7	19 52 15.95	2.6366	25 3 50.3	4.938	7	21 56 7.43	2.4889	17 52 38.7	12.569
8	19 54 54.13	2.6361	24 58 48.6	5.119	8	21 58 36.62	2.4842	17 40 0.8	12.693
9	19 57 32.28	2.6355	24 53 36.0	5.300	9	22 1 5.53	2.4794	17 27 15.5	12.816
10	20 0 10.39	2.6347	24 48 12.6	5.480	10	22 3 34.15	2.4746	17 14 22.9	12.936
11	20 2 48.45	2.6339	24 42 38.4	5.659	11	22 6 2.48	2.4696	17 1 23.2	13.053
12	20 5 26.46	2.6329	24 36 53.5	5.838	12	22 8 30.53	2.4651	16 48 16.5	13.170
13	20 8 4.40	2.6317	24 30 57.9	6.017	13	22 10 58.29	2.4603	16 35 2.8	13.284
14	20 10 42.26	2.6303	24 24 51.5	6.196	14	22 13 25.76	2.4554	16 21 42.4	13.396
15	20 13 20.04	2.6289	24 18 34.4	6.373	15	22 15 52.04	2.4506	16 8 15.3	13.507
16	20 15 57.73	2.6273	24 12 6.7	6.549	16	22 18 19.83	2.4457	15 54 41.6	13.616
17	20 18 35.32	2.6256	24 5 28.5	6.725	17	22 20 46.43	2.4409	15 41 1.4	13.723
18	20 21 12.80	2.6237	23 58 39.7	6.901	18	22 23 12.74	2.4361	15 27 14.9	13.828
19	20 23 50.17	2.6218	23 51 40.4	7.075	19	22 25 38.76	2.4313	15 13 22.1	13.930
20	20 26 27.42	2.6198	23 44 30.7	7.249	20	22 28 4.50	2.4266	14 59 23.3	14.030
21	20 29 4.54	2.6176	23 37 10.5	7.423	21	22 30 29.95	2.4218	14 45 18.5	14.129
22	20 31 41.53	2.6152	23 29 39.9	7.595	22	22 32 55.11	2.4170	14 31 7.8	14.226
23	20 34 18.37	2.6127	S. 23° 21' 59.1"	7.765	23	22 35 19.99	2.4122	S. 14° 16' 51.4"	14.320
TUESDAY 18.					THURSDAY 20.				
0	20 36 55.06	2.6102	S. 23° 14' 8.1"	7.935	0	22 37 44.58	2.4075	S. 14° 2' 29.4"	14.412
1	20 39 31.60	2.6076	23 6 6.9	8.105	1	22 40 8.89	2.4028	13 48 1.9	14.503
2	20 42 7.97	2.6048	22 57 55.5	8.274	2	22 42 32.92	2.3981	13 33 29.0	14.592
3	20 44 44.17	2.6018	22 49 34.0	8.442	3	22 44 56.66	2.3934	13 18 50.8	14.679
4	20 47 20.19	2.5988	22 41 2.5	8.608	4	22 47 20.12	2.3888	13 4 7.5	14.763
5	20 49 56.03	2.5957	22 32 21.1	8.773	5	22 49 43.31	2.3849	12 49 19.2	14.846
6	20 52 31.68	2.5925	22 23 29.8	8.937	6	22 52 6.22	2.3796	12 34 25.9	14.927
7	20 55 7.13	2.5892	22 14 28.7	9.099	7	22 54 28.86	2.3751	12 19 27.9	15.005
8	20 57 42.39	2.5859	22 5 17.9	9.261	8	22 56 51.23	2.3705	12 4 25.3	15.082
9	21 0 17.44	2.5824	21 55 57.4	9.421	9	22 59 13.32	2.3660	11 49 18.1	15.157
10	21 2 52.28	2.5788	21 46 27.4	9.579	10	23 1 35.15	2.3616	11 34 6.5	15.229
11	21 5 26.90	2.5752	21 36 47.9	9.737	11	23 3 56.71	2.3579	11 18 50.6	15.299
12	21 8 1.30	2.5714	21 26 58.9	9.894	12	23 6 18.01	2.3538	11 3 30.6	15.367
13	21 10 35.47	2.5676	21 17 0.6	10.048	13	23 8 39.05	2.3485	10 48 6.5	15.433
14	21 13 9.41	2.5637	21 6 53.1	10.202	14	23 10 59.83	2.3443	10 32 38.6	15.497
15	21 15 43.12	2.5598	20 56 36.4	10.354	15	23 13 20.36	2.3401	10 17 6.9	15.559
16	21 18 16.59	2.5557	20 46 10.6	10.505	16	23 15 40.64	2.3359	10 1 31.5	15.619
17	21 20 49.81	2.5516	20 35 35.8	10.654	17	23 18 0.67	2.3317	9 45 52.6	15.678
18	21 23 22.78	2.5474	20 24 52.1	10.802	18	23 20 20.45	2.3277	9 30 10.2	15.734
19	21 25 55.50	2.5432	20 13 59.6	10.948	19	23 22 39.99	2.3237	9 14 24.5	15.787
20	21 28 27.97	2.5390	20 2 58.4	11.092	20	23 24 59.29	2.3197	8 58 35.7	15.839
21	21 31 0.18	2.5347	19 51 48.6	11.234	21	23 27 18.35	2.3157	8 42 43.8	15.889
22	21 33 32.13	2.5302	19 40 30.3	11.375	22	23 29 37.17	2.3118	8 26 49.0	15.937
23	21 36 3.81	2.5257	19 29 3.6	11.515	23	23 31 55.77	2.3081	8 10 51.4	15.983
24	21 38 35.22	2.5212	S. 19° 17' 28.5"	11.653	24	23 34 14.14	2.3044	S. 7° 54' 51.1"	16.027

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
FRIDAY 21.					SUNDAY 23.				
0	^h 23 ^m 34 ^s 14.14	2.3044	S. 7° 54' 51.1"	16.037	0	^h 1 ^m 21 ^s 47.39	2.3044	N. 5° 8' 12.5"	15.908
1	23 36 32.29	2.3007	7 38 48.2	16.068	1	1 23 59.64	2.3041	5 24 5.7	15.869
2	23 38 50.22	2.2970	7 22 42.9	16.107	2	1 26 11.88	2.3038	5 39 56.0	15.814
3	23 41 7.93	2.2934	7 6 35.3	16.145	3	1 28 24.10	2.3036	5 55 43.4	15.768
4	23 43 25.43	2.2899	6 50 25.5	16.181	4	1 30 36.31	2.3035	6 11 27.9	15.717
5	23 45 42.72	2.2865	6 34 13.6	16.215	5	1 32 48.52	2.3034	6 27 9.5	15.667
6	23 47 59.81	2.2832	6 17 59.7	16.247	6	1 35 0.72	2.3034	6 42 48.0	15.615
7	23 50 16.70	2.2798	6 1 44.0	16.276	7	1 37 12.93	2.3036	6 58 23.3	15.561
8	23 52 33.39	2.2765	5 45 26.6	16.304	8	1 39 25.15	2.3037	7 13 55.3	15.506
9	23 54 49.88	2.2732	5 29 7.5	16.330	9	1 41 37.37	2.3039	7 29 24.0	15.449
10	23 57 6.18	2.2702	5 12 47.0	16.353	10	1 43 49.61	2.3042	7 44 49.2	15.391
11	23 59 22.30	2.2672	4 56 25.1	16.376	11	1 46 1.87	2.3044	8 0 10.9	15.332
12	0 1 38.24	2.2642	4 40 1.9	16.396	12	1 48 14.14	2.3047	8 15 29.0	15.271
13	0 3 54.00	2.2613	4 23 37.6	16.413	13	1 50 26.44	2.3052	8 30 43.4	15.208
14	0 6 9.59	2.2584	4 7 12.3	16.429	14	1 52 38.77	2.3058	8 45 54.0	15.144
15	0 8 25.01	2.2556	3 50 46.1	16.444	15	1 54 51.14	2.3064	9 1 0.7	15.079
16	0 10 40.26	2.2529	3 34 19.0	16.457	16	1 57 3.54	2.3070	9 16 3.5	15.012
17	0 12 55.36	2.2503	3 17 51.3	16.467	17	1 59 15.98	2.3077	9 31 2.2	14.944
18	0 15 10.30	2.2477	3 1 23.0	16.476	18	2 1 28.47	2.3085	9 45 56.8	14.875
19	0 17 25.09	2.2452	2 44 54.2	16.482	19	2 3 41.00	2.3093	10 0 47.2	14.804
20	0 19 39.73	2.2427	2 28 25.1	16.487	20	2 5 53.58	2.3102	10 15 33.3	14.732
21	0 21 54.22	2.2404	2 11 55.8	16.489	21	2 8 6.22	2.3111	10 30 15.1	14.660
22	0 24 8.58	2.2382	1 55 26.4	16.490	22	2 10 18.91	2.3121	10 44 52.5	14.585
23	0 26 22.80	2.2359	S. 1 38 57.0	16.490	23	2 12 31.67	2.3131	N. 10 59 25.3	14.508
SATURDAY 22.					MONDAY 24.				
0	0 28 36.89	2.2337	S. 1 22 27.6	16.488	0	2 14 44.49	2.3149	N. 11 13 53.5	14.431
1	0 30 50.85	2.2317	1 5 58.5	16.483	1	2 16 57.37	2.3154	11 28 17.0	14.359
2	0 33 4.70	2.2298	0 49 29.7	16.477	2	2 19 10.33	2.3166	11 42 35.8	14.273
3	0 35 18.43	2.2278	0 33 1.3	16.469	3	2 21 23.36	2.3178	11 56 49.8	14.192
4	0 37 32.04	2.2260	0 16 33.4	16.459	4	2 23 36.46	2.3190	12 10 58.9	14.110
5	0 39 45.55	2.2242	S. 0 0 6.2	16.447	5	2 25 49.64	2.3204	12 25 3.0	14.026
6	0 41 58.95	2.2225	N. 0 16 20.3	16.434	6	2 28 2.91	2.3218	12 39 2.0	13.941
7	0 44 12.25	2.2209	0 32 45.9	16.419	7	2 30 16.26	2.3232	12 52 55.9	13.855
8	0 46 25.46	2.2193	0 49 10.6	16.403	8	2 32 29.70	2.3247	13 6 44.6	13.767
9	0 48 38.57	2.2178	1 5 34.2	16.384	9	2 34 43.22	2.3261	13 20 28.0	13.679
10	0 50 51.60	2.2165	1 21 56.7	16.364	10	2 36 56.83	2.3277	13 34 6.1	13.590
11	0 53 4.55	2.2152	1 38 17.9	16.342	11	2 39 10.54	2.3293	13 47 38.8	13.499
12	0 55 17.42	2.2139	1 54 37.7	16.318	12	2 41 24.35	2.3310	14 1 6.0	13.407
13	0 57 30.22	2.2127	2 10 56.0	16.293	13	2 43 38.26	2.3327	14 14 27.7	13.314
14	0 59 42.95	2.2116	2 27 12.8	16.266	14	2 45 52.27	2.3344	14 27 43.7	13.219
15	1 1 55.61	2.2105	2 43 27.9	16.237	15	2 48 6.38	2.3361	14 40 54.0	13.124
16	1 4 8.21	2.2096	2 59 41.2	16.207	16	2 50 20.60	2.3379	14 53 58.6	13.028
17	1 6 20.76	2.2087	3 15 52.7	16.175	17	2 52 34.93	2.3397	15 6 57.4	12.930
18	1 8 33.26	2.2079	3 32 2.2	16.141	18	2 54 49.37	2.3416	15 19 50.2	12.831
19	1 10 45.71	2.2072	3 48 9.6	16.106	19	2 57 3.92	2.3435	15 32 37.1	12.732
20	1 12 58.12	2.2064	4 4 14.9	16.069	20	2 59 18.59	2.3454	15 45 18.0	12.631
21	1 15 10.48	2.2057	4 20 17.9	16.030	21	3 1 33.37	2.3473	15 57 52.8	12.529
22	1 17 22.81	2.2052	4 36 18.5	15.990	22	3 3 48.27	2.3493	16 10 21.4	12.426
23	1 19 35.11	2.2048	4 52 16.7	15.950	23	3 6 3.29	2.3513	16 22 43.9	12.322
24	1 21 47.39	2.2044	N. 5 8 12.5	15.908	24	3 8 18.43	2.3533	N. 16 35 0.1	12.217

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 25.					THURSDAY 27.				
0	h m s	a	N. 16° 35' 0.1"	12.917	0	h m s	a	N. 24° 3' 18.8"	6.178
1	3 8 18.43	2.2533	16 47 9.9	12.110	1	5 1 13.33	2.3475	24 9 25.3	6.037
2	3 10 33.69	2.2553	16 59 13.3	12.003	2	5 3 34.29	2.3487	24 15 23.3	5.896
3	3 15 4.58	2.2574	17 11 10.3	11.896	3	5 5 55.32	2.3499	24 21 12.8	5.754
4	3 17 20.21	2.2595	17 23 0.8	11.787	4	5 8 16.42	2.3511	24 26 53.8	5.612
5	3 19 35.97	2.2616	17 34 44.7	11.676	5	5 10 37.58	2.3523	24 32 26.2	5.469
6	3 21 51.86	2.2637	17 46 21.9	11.564	6	5 12 58.79	2.3531	24 37 50.1	5.326
7	3 24 7.88	2.2659	17 57 52.4	11.452	7	5 15 20.06	2.3540	24 43 5.4	5.183
8	3 26 24.02	2.2680	18 9 16.2	11.340	8	5 17 41.38	2.3549	24 48 12.1	5.039
9	3 28 40.29	2.2701	18 20 33.2	11.228	9	5 20 2.75	2.3557	24 53 10.1	4.895
10	3 30 56.69	2.2723	18 31 43.3	11.111	10	5 22 24.16	2.3565	24 57 59.5	4.752
11	3 33 13.23	2.2745	18 42 46.5	10.995	11	5 24 45.61	2.3573	25 2 40.3	4.608
12	3 35 29.90	2.2767	18 53 42.7	10.878	12	5 27 7.10	2.3578	25 7 12.5	4.464
13	3 37 46.70	2.2789	19 4 31.9	10.761	13	5 29 28.62	2.3584	25 11 36.0	4.319
14	3 40 3.63	2.2811	19 15 14.0	10.644	14	5 31 50.16	2.3588	25 15 50.8	4.174
15	3 42 20.69	2.2832	19 25 49.0	10.523	15	5 34 11.73	2.3592	25 19 56.9	4.029
16	3 44 37.88	2.2854	19 36 16.8	10.402	16	5 36 33.31	2.3596	25 23 54.3	3.883
17	3 46 55.21	2.2877	19 46 37.3	10.281	17	5 38 54.91	2.3598	25 27 42.9	3.738
18	3 49 12.67	2.2899	19 56 50.5	10.159	18	5 41 16.52	2.3601	25 31 22.9	3.594
19	3 51 30.26	2.2921	20 6 56.3	10.038	19	5 43 38.14	2.3603	25 34 54.2	3.448
20	3 53 47.98	2.2942	20 16 54.8	9.913	20	5 45 59.75	2.3605	25 38 16.7	3.303
21	3 56 5.83	2.2964	20 26 45.9	9.789	21	5 48 21.36	2.3607	25 41 30.5	3.157
22	3 58 23.81	2.2986	20 36 29.5	9.664	22	5 50 42.96	2.3609	25 44 35.5	3.011
23	4 0 41.92	2.3007	N. 20 46 5.5	9.538	23	5 53 4.54	2.3611	N. 25 47 31.8	2.866
WEDNESDAY 26.					FRIDAY 28.				
0	4 3 0.15	2.3049	N. 20 55 34.0	9.412	0	5 55 26.11	2.3593	N. 25 50 19.4	2.790
1	4 5 18.51	2.3071	21 4 54.9	9.284	1	5 57 47.66	2.3598	25 52 58.2	2.574
2	4 7 37.00	2.3092	21 14 8.1	9.155	2	6 0 9.18	2.3594	25 55 28.3	2.429
3	4 9 55.62	2.3113	21 23 13.5	9.026	3	6 2 30.66	2.3578	25 57 49.7	2.284
4	4 12 14.36	2.3133	21 32 11.2	8.897	4	6 4 52.11	2.3572	26 0 2.4	2.138
5	4 14 33.22	2.3153	21 41 1.1	8.767	5	6 7 13.52	2.3564	26 2 6.3	1.992
6	4 16 52.20	2.3173	21 49 43.2	8.636	6	6 9 34.88	2.3556	26 4 1.5	1.847
7	4 19 11.30	2.3193	21 58 17.4	8.504	7	6 11 56.19	2.3547	26 5 48.0	1.702
8	4 21 30.52	2.3213	22 6 43.7	8.373	8	6 14 17.44	2.3537	26 7 25.8	1.557
9	4 23 49.86	2.3232	22 15 2.1	8.240	9	6 16 38.64	2.3527	26 8 54.9	1.412
10	4 26 9.31	2.3253	22 23 12.5	8.106	10	6 18 59.77	2.3515	26 10 15.3	1.267
11	4 28 28.88	2.3271	22 31 14.8	7.971	11	6 21 20.82	2.3503	26 11 27.0	1.123
12	4 30 48.56	2.3289	22 39 9.0	7.836	12	6 23 41.80	2.3490	26 12 30.1	0.979
13	4 33 8.34	2.3306	22 46 55.1	7.701	13	6 26 2.70	2.3476	26 13 24.5	0.835
14	4 35 28.23	2.3324	22 54 33.1	7.566	14	6 28 23.51	2.3462	26 14 10.3	0.692
15	4 37 48.23	2.3342	23 2 3.0	7.430	15	6 30 44.24	2.3447	26 14 47.5	0.548
16	4 40 8.33	2.3358	23 9 24.7	7.293	16	6 33 4.87	2.3430	26 15 16.0	0.404
17	4 42 28.53	2.3374	23 16 38.1	7.154	17	6 35 25.40	2.3413	26 15 36.0	0.260
18	4 44 48.82	2.3390	23 23 43.2	7.016	18	6 37 45.83	2.3396	26 15 47.4	+ 0.119
19	4 47 9.21	2.3406	23 30 40.0	6.877	19	6 40 6.15	2.3377	26 15 50.3	- 0.023
20	4 49 29.69	2.3420	23 37 28.5	6.739	20	6 42 26.35	2.3357	26 15 44.6	0.166
21	4 51 50.25	2.3434	23 44 8.7	6.600	21	6 44 46.43	2.3337	26 15 30.4	0.307
22	4 54 10.90	2.3448	23 50 40.5	6.460	22	6 47 6.39	2.3317	26 15 7.7	0.448
23	4 56 31.63	2.3469	23 57 3.9	6.319	23	6 49 26.23	2.3296	26 14 36.6	0.589
24	4 58 52.44	2.3475	N. 24 3 18.8	6.178	24	6 51 45.93	2.3272	N. 26 13 57.0	0.730

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 29.					MONDAY 31.				
0	h ^h m ^m s ^s 45.93	2.3273	N.26° 13' 57.0"	0.730	0	h ^h m ^m s ^s 38.17	2.1481	N.23° 8' 9.6"	6.735
1	6 54 5.49	2.3248	26 13 9.0	0.870	1	8 41 46.91	2.1434	23 1 22.3	6.840
2	6 56 24.91	2.3225	26 12 12.6	1.009	2	8 43 55.37	2.1387	22 54 28.8	6.944
3	6 58 44.19	2.3201	26 11 7.9	1.148	3	8 46 3.55	2.1340	22 47 29.0	7.048
4	7 1 3.32	2.3175	26 9 54.8	1.287	4	8 48 11.45	2.1292	22 40 23.0	7.152
5	7 3 22.29	2.3148	26 8 33.4	1.425	5	8 50 19.06	2.1245	22 33 10.8	7.254
6	7 5 41.09	2.3120	26 7 3.8	1.562	6	8 52 26.30	2.1197	22 25 52.5	7.355
7	7 7 59.73	2.3093	26 5 25.9	1.700	7	8 54 33.43	2.1150	22 18 28.2	7.455
8	7 10 18.21	2.3066	26 3 39.8	1.837	8	8 56 40.19	2.1102	22 10 57.9	7.554
9	7 12 36.52	2.3037	26 1 45.5	1.973	9	8 58 46.66	2.1054	22 3 21.7	7.652
10	7 14 54.65	2.3006	25 59 43.0	2.109	10	9 0 52.84	2.1007	21 55 39.6	7.750
11	7 17 12.59	2.2975	25 57 32.4	2.243	11	9 2 58.74	2.0959	21 47 51.7	7.847
12	7 19 30.35	2.2944	25 55 13.8	2.377	12	9 5 4.35	2.0911	21 39 58.0	7.943
13	7 21 47.92	2.2912	25 52 47.1	2.511	13	9 7 9.67	2.0863	21 31 58.6	8.037
14	7 24 5.30	2.2880	25 50 12.4	2.645	14	9 9 14.71	2.0816	21 23 53.6	8.130
15	7 26 22.48	2.2847	25 47 29.7	2.777	15	9 11 19.46	2.0768	21 15 43.0	8.223
16	7 28 39.46	2.2813	25 44 39.1	2.909	16	9 13 23.93	2.0721	21 7 26.9	8.315
17	7 30 56.24	2.2779	25 41 40.6	3.040	17	9 15 28.11	2.0673	20 59 5.2	8.407
18	7 33 12.81	2.2744	25 38 34.3	3.171	18	9 17 32.01	2.0626	20 50 38.1	8.496
19	7 35 29.17	2.2708	25 35 20.1	3.302	19	9 19 35.62	2.0578	20 42 5.7	8.585
20	7 37 45.31	2.2672	25 31 58.1	3.431	20	9 21 38.95	2.0531	20 33 27.9	8.673
21	7 40 1.23	2.2635	25 28 28.4	3.559	21	9 23 42.00	2.0484	20 24 44.9	8.760
22	7 42 16.93	2.2597	25 24 51.0	3.686	22	9 25 44.76	2.0437	20 15 56.7	8.846
23	7 44 32.40	2.2560	N.25 21 6.0	3.813	23	9 27 47.24	2.0390	N.20 7 3.4	8.931
SUNDAY 30.					TUESDAY, SEPTEMBER 1.				
0	7 46 47.65	2.2522	N.25 17 13.4	3.940	0	9 29 49.44	2.0343	N.19 58 5.0	9.015
1	7 49 2.67	2.2483	25 13 13.2	4.066	PHASES OF THE MOON.				
2	7 51 17.45	2.2443	25 9 5.5	4.191					
3	7 53 31.99	2.2403	25 4 50.3	4.316					
4	7 55 46.29	2.2363	25 0 27.6	4.439					
5	7 58 0.35	2.2322	24 55 57.6	4.561	● New Moon . August d h m ^m ☾ First Quarter 12 9 11.7 ○ Full Moon 19 9 28.3 ☾ Last Quarter 26 0 9.2				
6	8 0 14.16	2.2281	24 51 20.3	4.683					
7	8 2 27.72	2.2239	24 46 35.7	4.804					
8	8 4 41.03	2.2197	24 41 43.8	4.925					
9	8 6 54.09	2.2155	24 36 44.7	5.044	☾ Apogee . . . August d h ☾ Perigee 20 8.9				
10	8 9 6.89	2.2113	24 31 38.5	5.163					
11	8 11 19.44	2.2070	24 26 25.2	5.281					
12	8 13 31.73	2.2026	24 21 4.8	5.398					
13	8 15 43.75	2.1982	24 15 37.4	5.514					
14	8 17 55.51	2.1937	24 10 3.1	5.629					
15	8 20 7.00	2.1892	24 4 21.9	5.744					
16	8 22 18.22	2.1847	23 58 33.8	5.857					
17	8 24 29.17	2.1803	23 52 39.0	5.969					
18	8 26 39.86	2.1758	23 46 37.5	6.081					
19	8 28 50.27	2.1712	23 40 29.3	6.192					
20	8 31 0.40	2.1666	23 34 14.4	6.303					
21	8 33 10.26	2.1620	23 27 52.9	6.412					
22	8 35 19.84	2.1573	23 21 24.9	6.520					
23	8 37 29.14	2.1527	23 14 50.5	6.628					
24	8 39 38.17	2.1481	N.23 8 9.6	6.735					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Fomalhaut W.	118° 20' 41"	2974	119° 51' 26"	2991	121° 21' 50"	3008	122° 51' 53"	3025
	α Pegasi W.	98 30 54	3156	99 57 56	3168	101 24 43	3183	102 51 13	3196
	α Arietis W.	55 51 14	2990	57 23 46	2994	58 56 13	2998	60 28 35	2999
	Aldebaran W.	24 52 17	2971	26 25 13	2966	27 58 15	2964	29 31 20	2962
	Sun E.	37 5 19	3196	35 37 41	3139	34 10 19	3159	32 43 12	3166
2	α Arietis W.	68 8 51	2998	69 40 34	2935	71 12 9	2941	72 43 36	2946
	Aldebaran W.	37 16 32	2975	38 49 23	2979	40 22 9	2983	41 54 49	2989
	Sun E.	25 31 55	2943	24 6 37	2962	22 41 41	2983	21 17 10	2998
5	Sun W.	10 3 7	3817	11 17 52	3731	12 34 6	3665	13 51 30	3616
	Spica E.	61 9 18	3014	59 39 23	3091	58 9 36	3097	56 39 57	3034
	Antares E.	107 1 51	3001	105 31 40	3007	104 1 36	3013	102 31 39	3018
6	Sun W.	20 27 43	3514	21 47 52	3506	23 8 9	3500	24 28 33	3495
	Spica E.	49 13 45	3066	47 44 54	3073	46 16 11	3079	44 47 36	3085
	Antares E.	95 3 35	3044	93 34 17	3049	92 5 5	3053	90 35 58	3058
7	Sun W.	31 11 27	3486	32 32 7	3486	33 52 47	3486	35 13 27	3485
	Spica E.	37 26 34	3117	35 58 45	3194	34 31 4	3131	33 3 32	3138
	Antares E.	83 11 39	3076	81 43 0	3078	80 14 24	3082	78 45 52	3084
8	Sun W.	41 56 56	3482	43 17 40	3481	44 38 25	3480	45 59 11	3480
	Antares E.	71 23 50	3092	69 55 31	3093	68 27 13	3094	66 58 56	3094
	α Aquilæ E.	115 40 23	4090	114 30 12	4068	113 19 39	4046	112 8 45	4027
9	Sun W.	52 43 29	3468	54 4 29	3464	55 25 33	3462	56 46 40	3457
	Antares E.	59 37 25	3090	58 9 3	3088	56 40 39	3086	55 12 12	3083
	α Aquilæ E.	106 9 42	3942	104 57 5	3928	103 44 14	3915	102 31 9	3902
10	Sun W.	63 33 33	3432	64 55 13	3425	66 17 1	3418	67 38 57	3410
	Antares E.	47 49 2	3065	46 20 10	3061	44 51 13	3056	43 22 10	3051
	α Aquilæ E.	96 22 43	3848	95 8 30	3838	93 54 7	3829	92 39 35	3821
11	Sun W.	74 30 51	3368	75 53 44	3358	77 16 48	3348	78 40 4	3337
	Antares E.	35 55 11	3022	34 25 25	3015	32 55 31	3009	31 25 29	3001
	α Aquilæ E.	86 24 59	3787	85 9 43	3789	83 54 22	3777	82 38 56	3779
	Fomalhaut E.	118 10 23	3212	116 44 28	3197	115 18 15	3183	113 51 45	3162
12	Sun W.	85 39 43	3276	87 4 23	3263	88 29 18	3249	89 54 20	3235
	Spica W.	23 3 3	3090	24 32 51	2995	26 3 10	2979	27 33 58	2950
	α Aquilæ E.	76 20 50	3761	75 5 7	3761	73 49 24	3762	72 33 42	3765
	Fomalhaut E.	106 34 48	3093	105 6 30	3078	103 37 54	3063	102 8 59	3048
	α Pegasi E.	123 51 53	3497	122 31 26	3466	121 10 24	3435	119 48 47	3404
13	Sun W.	97 4 48	3158	98 31 48	3141	99 59 8	3124	101 26 48	3106
	Spica W.	35 14 38	2948	36 48 3	2929	38 21 53	2910	39 56 8	2799
	α Aquilæ E.	66 16 10	3792	65 1 0	3804	63 46 2	3817	62 31 17	3832
	Fomalhaut E.	94 39 38	2969	93 8 47	2954	91 37 36	2938	90 6 5	2921
	α Pegasi E.	112 52 24	3267	111 27 34	3241	110 2 13	3216	108 36 23	3191
14	Sun W.	108 50 33	3017	110 20 25	2997	111 50 41	2979	113 21 20	2961

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1	Fomalhaut	W.	124° 21' 35"	3043	125° 50' 54"	3064	127° 19' 48"	3084	128° 46' 17"	3105
	α Pegasi	W.	104 17 27	3211	105 43 23	3222	107 9 2	3242	108 34 22	3259
	α Arietis	W.	62 0 51	2907	63 33 1	2918	65 5 5	2917	66 37 2	2924
	Aldebaran	W.	31 4 27	2853	32 37 33	2866	34 10 36	2868	35 43 36	2871
	Sun	E.	31 16 22	3179	29 49 48	3194	28 23 32	3209	26 57 34	3225
2	α Arietis	W.	74 14 56	2953	75 46 8	2960	77 17 11	2966	78 48 6	2973
	Aldebaran	W.	43 27 22	2924	44 59 48	2939	46 32 8	2905	48 4 20	2911
	Sun	E.	19 53 8	3336	18 29 38	3366	17 6 43	3402	15 44 29	3444
5	Sun	W.	15 9 47	3581	16 28 42	3557	17 48 3	3538	19 7 45	3524
	Spica	E.	55 10 27	3040	53 41 4	3047	52 11 50	3054	50 42 44	3060
	Antares	E.	101 1 49	3024	99 32 6	3029	98 2 29	3034	96 32 59	3039
6	Sun	W.	25 49 3	3492	27 9 36	3490	28 30 11	3488	29 50 48	3467
	Spica	E.	43 19 8	3091	41 50 48	3098	40 22 36	3104	38 54 31	3110
	Antares	E.	89 6 57	3092	87 38 1	3065	86 9 9	3069	84 40 22	3073
7	Sun	W.	36 34 8	3485	37 54 49	3484	39 15 31	3484	40 36 13	3483
	Spica	E.	31 36 8	3148	30 8 54	3154	28 41 50	3163	27 14 56	3173
	Antares	E.	77 17 23	3086	75 48 56	3088	74 20 32	3090	72 52 10	3091
8	Sun	W.	47 19 58	3478	48 40 47	3475	50 1 39	3473	51 22 33	3471
	Antares	E.	65 30 39	3094	64 2 22	3093	62 34 4	3092	61 5 45	3091
	α Aquilæ	E.	110 57 32	4008	109 46 0	3899	108 34 10	3973	107 22 4	3957
9	Sun	W.	58 7 52	3453	59 29 9	3448	60 50 31	3443	62 11 59	3438
	Antares	E.	53 43 42	3080	52 15 8	3078	50 46 31	3073	49 17 49	3069
	α Aquilæ	E.	101 17 51	3890	100 4 21	3878	98 50 39	3867	97 36 46	3857
10	Sun	W.	69 1 2	3403	70 23 15	3395	71 45 37	3386	73 8 9	3378
	Antares	E.	41 53 0	3046	40 23 44	3039	38 54 20	3034	37 24 49	3028
	α Aquilæ	E.	91 24 55	3814	90 10 7	3806	88 55 11	3799	87 40 8	3793
11	Sun	W.	80 3 33	3325	81 27 15	3314	82 51 10	3302	84 15 19	3289
	Antares	E.	29 55 18	2995	28 24 59	2989	26 54 33	2984	25 24 0	2978
	α Aquilæ	E.	81 23 25	3768	80 7 50	3766	78 52 12	3764	77 36 32	3762
	Fomalhaut	E.	112 24 57	3153	110 57 51	3138	109 30 28	3124	108 2 47	3109
12	Sun	W.	91 19 57	3220	92 45 43	3205	94 11 46	3189	95 38 8	3174
	Spica	W.	29 5 13	2999	30 36 55	2998	32 9 4	2988	33 41 38	2968
	α Aquilæ	E.	71 18 3	3768	70 2 27	3771	68 46 55	3777	67 31 29	3784
	Fomalhaut	E.	100 39 46	3039	99 10 13	3017	97 40 21	3001	96 10 9	2985
	α Pegasi	E.	118 26 35	3375	117 3 50	3347	115 40 33	3319	114 16 44	3293
13	Sun	W.	102 54 50	3089	104 23 13	3072	105 51 57	3053	107 21 4	3035
	Spica	W.	41 30 47	2772	43 5 52	2753	44 41 21	2735	46 17 15	2715
	α Aquilæ	E.	61 16 48	3850	60 2 37	3869	58 48 46	3893	57 35 19	3920
	Fomalhaut	E.	88 34 13	2905	87 2 1	2889	85 29 28	2873	83 56 34	2857
	α Pegasi	E.	107 10 3	3168	105 43 15	3143	104 15 58	3121	102 48 14	3098
14	Sun	W.	114 52 22	2941	116 23 49	2922	117 55 40	2902	119 27 56	2883

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14	Spica W.	47° 53' 35"	9695	49° 30' 21"	9677	51° 7' 32"	9657	52° 45' 9"	9638
	α Aquilæ E.	56 22 20	9651	55 9 52	9695	53 57 58	4093	52 46 44	4071
	Fomalhaut E.	82 23 20	9641	80 49 45	9695	79 15 49	9608	77 41 32	9793
	α Pegasi E.	101 20 2	9676	99 51 23	9654	98 22 17	9633	96 52 45	9612
15	Sun W.	121 0 36	9663	122 33 42	9645	124 7 12	9625	125 41 8	9606
	Spica W.	60 59 50	9541	62 40 6	9521	64 20 50	9509	66 2 1	9489
	Antares W.	15 19 38	9657	16 57 15	9614	18 35 51	9577	20 15 18	9543
	Fomalhaut E.	69 45 5	9718	68 8 49	9704	66 32 14	9690	64 55 21	9678
	α Pegasi E.	89 18 46	9615	87 46 46	9697	86 14 23	9680	84 41 38	9662
16	Spica W.	74 34 41	9387	76 18 34	9368	78 2 54	9350	79 47 40	9332
	Antares W.	28 42 56	9411	30 26 15	9389	32 10 6	9367	33 54 28	9346
	Fomalhaut E.	56 46 58	9696	55 8 38	9618	53 30 8	9613	51 51 31	9609
	α Pegasi E.	76 52 48	9791	75 18 8	9780	73 43 14	9769	72 8 6	9760
	α Arietis E.	119 13 9	9495	117 31 49	9472	115 49 57	9451	114 7 35	9429
17	Spica W.	88 38 1	9246	90 25 20	9230	92 13 3	9214	94 1 10	9199
	Antares W.	42 43 41	9250	44 30 54	9233	46 18 33	9215	48 6 38	9199
	Fomalhaut E.	43 38 1	9624	41 59 39	9636	40 21 33	9654	38 43 51	9676
	α Pegasi E.	64 10 1	9737	62 34 10	9737	60 58 19	9740	59 22 32	9746
	α Arietis E.	105 28 25	9339	103 43 12	9315	101 57 34	9298	100 11 31	9281
18	Spica W.	103 7 9	9131	104 57 21	9119	106 47 51	9108	108 38 38	9097
	Antares W.	57 12 52	9196	59 3 11	9113	60 53 50	9101	62 44 47	9090
	α Pegasi E.	51 26 46	9221	49 52 45	9248	48 19 20	9261	46 46 37	9290
	α Arietis E.	91 15 30	9209	89 27 16	9196	87 38 43	9185	85 49 53	9175
	Aldebaran E.	121 49 31	9145	119 59 40	9132	118 9 29	9118	116 18 58	9107
19	Spica W.	117 56 18	9055	119 48 27	9049	121 40 45	9043	123 33 12	9039
	Antares W.	72 3 38	9043	73 56 5	9035	75 48 44	9029	77 41 33	9024
	α Arietis E.	76 42 11	9135	74 52 5	9130	73 1 52	9126	71 11 32	9122
	Aldebaran E.	107 2 11	9058	105 10 7	9050	103 17 51	9044	101 25 26	9038
20	Antares W.	87 7 25	9007	89 0 49	9005	90 54 15	9005	92 47 41	9005
	α Aquilæ W.	48 20 38	9668	49 37 59	9574	50 57 2	9489	52 17 38	9415
	α Arietis E.	61 59 13	9194	60 8 50	9198	58 18 33	9133	56 28 24	9139
	Aldebaran E.	92 1 26	9021	90 8 24	9020	88 15 21	9019	86 22 17	9020
21	Antares W.	102 14 18	9019	104 7 22	9024	106 0 19	9030	107 53 6	9036
	α Aquilæ W.	59 19 16	9144	60 46 32	9109	62 14 31	9077	63 43 9	9048
	Fomalhaut W.	24 24 37	9396	25 50 15	9371	27 19 0	9347	28 50 19	9347
	α Arietis E.	47 20 52	9196	45 32 19	9214	43 44 12	9233	41 56 34	9256
	Aldebaran E.	76 57 36	9035	75 4 56	9040	73 12 24	9046	71 20 2	9053
	Pollux E.	121 3 5	9016	119 9 55	9020	117 16 52	9025	115 23 57	9032
22	Antares W.	117 14 15	9078	119 5 48	9086	120 57 6	9099	122 48 7	9111
	α Aquilæ W.	71 13 28	9262	72 44 28	9264	74 15 39	9249	75 46 56	9245
	Fomalhaut W.	36 52 21	9566	38 32 3	9536	40 12 26	9512	41 53 22	9493
	Aldebaran E.	62 1 8	9098	60 10 5	9108	58 19 18	9120	56 28 49	9123
	Pollux E.	106 2 2	9071	104 10 18	9080	102 18 48	9090	100 27 34	9101
	Sun E.	142 50 55	9400	141 7 20	9408	139 23 56	9416	137 40 44	9425

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14	Spica W.	54° 23' 12"	9618	56° 1' 42"	9599	57° 40' 38"	9580	59° 20' 1"	9561
	α Aquilæ E.	51 36 14	4192	50 26 34	4180	49 17 49	4946	48 10 6	4320
	Fomalhaut E.	76 6 55	9778	74 31 58	9762	72 56 40	9747	71 21 2	9732
	α Pegasi E.	95 22 47	9992	93 52 24	9979	92 21 36	9952	90 50 23	9933
15	Sun W.	127 15 28	9787	128 50 13	9768	130 25 23	9749	132 0 58	9731
	Spica W.	67 43 39	9463	69 25 44	9444	71 8 16	9425	72 51 15	9406
	Antares W.	21 55 31	9513	23 36 26	9485	25 18 0	9459	27 0 11	9435
	Fomalhaut E.	63 18 11	9666	61 40 45	9654	60 3 3	9643	58 25 7	9634
	α Pegasi E.	83 8 31	9847	81 35 4	9831	80 1 17	9817	78 27 11	9804
16	Spica W.	81 32 53	9314	83 18 32	9297	85 4 36	9279	86 51 6	9262
	Antares W.	35 39 21	9325	37 24 44	9306	39 10 35	9287	40 56 54	9268
	Fomalhaut E.	50 12 48	9607	48 34 2	9607	46 55 17	9610	45 16 35	9615
	α Pegasi E.	70 32 46	9752	68 57 15	9746	67 21 36	9741	65 45 51	9738
	α Arietis E.	112 24 42	9409	110 41 20	9389	108 57 30	9369	107 13 11	9350
17	Spica W.	95 49 39	9184	97 38 30	9170	99 27 43	9157	101 17 16	9143
	Antares W.	49 55 7	9183	51 44 0	9169	53 33 15	9153	55 22 53	9139
	Fomalhaut E.	37 6 39	9705	35 30 6	9741	33 54 21	9786	32 19 35	9842
	α Pegasi E.	57 46 53	9754	56 11 25	9765	54 36 11	9785	53 1 16	9798
	α Arietis E.	98 25 3	9265	96 38 12	9250	94 50 59	9236	93 3 25	9222
18	Spica W.	110 29 42	9087	112 21 1	9078	114 12 34	9070	116 4 20	9062
	Antares W.	64 36 2	9079	66 27 34	9069	68 19 21	9059	70 11 23	9051
	α Pegasi E.	45 14 44	9266	43 43 49	9261	42 14 2	9264	40 45 33	9158
	α Arietis E.	84 0 48	9165	82 11 28	9156	80 21 54	9148	78 32 8	9141
	Aldebaran E.	114 28 9	9066	112 37 3	9065	110 45 40	9075	108 54 2	9066
19	Spica W.	125 25 45	9035	127 18 24	9033	129 11 7	9031	131 3 53	9031
	Antares W.	79 34 30	9019	81 27 35	9014	83 20 47	9011	85 14 4	9009
	α Arietis E.	69 21 7	9190	67 30 39	9119	65 40 9	9190	63 49 40	9121
	Aldebaran E.	99 32 51	9033	97 40 8	9029	95 47 19	9026	93 54 25	9023
20	Antares W.	94 41 7	9007	96 34 31	9009	98 27 51	9012	100 21 7	9015
	α Aquilæ W.	53 39 38	9347	55 2 55	9367	56 27 22	9324	57 52 51	9187
	α Arietis E.	54 38 24	9147	52 48 37	9157	50 59 4	9168	49 9 48	9181
	Aldebaran E.	84 29 14	9021	82 36 13	9024	80 43 16	9026	78 50 23	9030
21	Antares W.	109 45 44	9043	111 38 11	9052	113 30 25	9059	115 22 27	9068
	α Aquilæ W.	65 12 22	9025	66 42 4	9004	68 12 12	9087	69 42 41	9073
	Fomalhaut W.	30 23 46	9786	31 58 58	9701	33 35 37	9646	35 13 29	9602
	α Arietis E.	40 9 29	9281	38 23 2	9310	36 37 17	9243	34 52 20	9280
	Aldebaran E.	69 27 50	9061	67 35 50	9068	65 44 2	9077	63 52 27	9087
	Pollux E.	113 31 12	9038	111 38 37	9045	109 46 13	9053	107 54 1	9061
22	Antares W.	124 38 50	9122	126 29 15	9134	128 19 22	9147	130 9 9	9162
	α Aquilæ W.	77 18 18	9244	78 49 41	9245	80 21 3	9248	81 52 21	9254
	Fomalhaut W.	43 34 45	9478	45 16 29	9467	46 58 29	9459	48 40 40	9453
	Aldebaran E.	54 38 39	9145	52 48 49	9159	50 59 19	9173	49 10 11	9188
	Pollux E.	98 36 36	9113	96 45 56	9124	94 55 33	9136	93 5 29	9149
	Sun E.	135 57 45	9436	134 15 1	9445	132 32 31	9457	130 50 17	9468

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23	α Aquilæ W.	83° 23' 32"	2961	84° 54' 34"	2969	86° 25' 26"	2980	87° 56' 4"	2992
	Fomalhaut W.	50 22 59	2450	52 5 22	2449	53 47 47	2450	55 30 10	2453
	α Pegasi W.	36 16 40	3497	37 37 8	3404	38 59 20	3394	40 23 4	3355
	Aldebaran E.	47 21 25	2904	45 33 3	2920	43 45 5	2937	41 57 33	2956
	Pollux E.	91 15 44	2162	89 26 19	2174	87 37 13	2188	85 48 28	2202
	Venus E.	122 8 1	2555	120 28 4	2569	118 48 26	2583	117 9 8	2598
	Sun E.	129 8 19	2481	127 26 39	2494	125 45 18	2508	124 4 16	2522
24	α Aquilæ W.	95 24 47	3076	96 53 26	3088	98 21 38	3191	99 49 22	3145
	Fomalhaut W.	64 0 34	2485	65 42 9	2494	67 23 30	2504	69 4 37	2515
	α Pegasi W.	47 38 25	3039	49 7 49	3014	50 37 44	2993	52 8 5	2977
	Aldebaran E.	33 6 56	2359	31 22 23	2384	29 38 25	2411	27 55 6	2440
	Pollux E.	76 50 5	2277	75 3 31	2291	73 17 19	2307	71 31 30	2323
	Sun E.	115 44 8	2588	114 5 10	2613	112 26 33	2629	110 48 18	2646
25	α Aquilæ W.	107 0 8	3291	108 24 30	3295	109 48 13	3361	111 11 14	3399
	Fomalhaut W.	77 26 11	2577	79 5 37	2591	80 44 44	2605	82 23 32	2619
	α Pegasi W.	59 43 50	2935	61 15 24	2934	62 47 0	2934	64 18 36	2935
	Pollux E.	62 48 10	2403	61 4 39	2418	59 21 30	2435	57 38 45	2450
	Sun E.	102 42 37	2729	101 6 36	2746	99 30 57	2763	97 55 40	2780
26	Fomalhaut W.	90 32 35	2695	92 9 22	2710	93 45 49	2726	95 21 54	2741
	α Pegasi W.	71 55 40	2959	73 26 44	2967	74 57 38	2975	76 28 22	2984
	α Arietis W.	28 18 3	2962	29 49 3	2935	31 20 38	2913	32 52 40	2897
	Pollux E.	49 10 35	2530	47 30 3	2545	45 49 53	2561	44 10 4	2577
	Sun E.	90 4 46	2962	88 31 39	2980	86 58 54	2996	85 26 30	2912
27	Fomalhaut W.	103 17 8	2822	104 51 7	2838	106 24 45	2855	107 58 1	2873
	α Pegasi W.	83 59 1	3037	85 28 28	3048	86 57 41	3060	88 26 39	3073
	α Arietis W.	40 36 32	2864	42 9 37	2864	43 42 42	2866	45 15 45	2867
	Pollux E.	35 56 17	2852	34 18 33	2868	32 41 10	2883	31 4 7	2898
	Sun E.	77 49 29	2929	76 19 3	2905	74 48 56	2919	73 19 7	2934
28	Fomalhaut W.	115 38 53	2959	117 9 57	2977	118 40 38	2996	120 10 56	3014
	α Pegasi W.	95 47 27	3142	97 14 46	3156	98 41 48	3171	100 8 32	3187
	α Arietis W.	52 59 57	2890	54 32 29	2896	56 4 53	2902	57 37 9	2909
	Aldebaran W.	22 7 18	2909	23 39 26	2901	25 11 43	2908	26 44 5	2894
	Sun E.	65 54 28	3104	64 26 23	3118	62 58 35	3130	61 31 2	3143
29	α Pegasi W.	107 17 26	3270	108 42 13	3288	110 6 39	3306	111 30 44	3325
	α Arietis W.	65 16 19	2943	66 47 43	2951	68 18 57	2958	69 50 2	2965
	Aldebaran W.	34 26 5	2904	35 58 19	2908	37 30 28	2913	39 2 30	2918
	Sun E.	54 17 4	3204	52 51 0	3216	51 25 10	3227	49 59 33	3239
30	α Arietis W.	77 23 16	3001	78 53 28	3008	80 23 31	3014	81 53 26	3021
	Aldebaran W.	46 40 59	2946	48 12 19	2959	49 43 32	2958	51 14 37	2964
	Sun E.	42 54 46	3294	41 30 27	3304	40 6 20	3315	38 42 26	3326
31	α Arietis W.	89 20 58	3054	90 50 4	3060	92 19 3	3066	93 47 54	3073
	Aldebaran W.	58 48 16	2992	60 18 39	2997	61 48 55	3002	63 19 5	3008
	Pollux W.	14 39 24	3098	16 9 2	3096	17 38 43	3093	19 8 27	3092
	Sun E.	31 46 4	3382	30 23 27	3393	29 1 3	3406	27 38 53	3420

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23	α Aquilæ W.	89 26 27	3005	90 56 33	3092	92 26 19	3039	93 55 44	3056
	Fomalhaut W.	57 12 30	2457	58 54 44	2462	60 36 50	2469	62 18 47	2476
	α Pegasi W.	41 48 8	3197	43 14 21	3147	44 41 34	3105	46 9 38	3069
	Aldebaran E.	40 10 28	2974	38 23 50	2994	36 37 41	2915	34 52 3	2936
	Pollux E.	84 0 4	2917	82 12 2	2931	80 24 21	2946	78 37 2	2961
	VENUS E.	115 30 10	2613	113 51 33	2629	112 13 17	2645	110 35 23	2661
	SUN E.	122 23 34	2536	120 43 11	2551	119 3 9	2566	117 23 28	2582
24	α Aquilæ W.	101 16 37	3171	102 43 21	3198	104 9 32	3228	105 35 8	3259
	Fomalhaut W.	70 45 29	2587	72 26 5	2538	74 6 25	2551	75 46 27	2564
	α Pegasi W.	53 38 47	2963	55 9 46	2953	56 40 58	2945	58 12 20	2939
	Aldebaran E.	26 12 28	2479	24 30 35	2508	22 49 33	2548	21 9 26	2594
	Pollux E.	69 46 4	2339	68 1 1	2355	66 16 21	2371	64 32 4	2387
	SUN E.	109 10 25	2662	107 32 54	2679	105 55 46	2695	104 19 0	2713
25	α Aquilæ W.	112 33 32	3438	113 55 5	3480	115 15 51	3525	116 35 48	3571
	Fomalhaut W.	84 2 1	2634	85 40 10	2649	87 17 59	2664	88 55 27	2679
	α Pegasi W.	65 50 11	2938	67 21 42	2942	68 53 8	2946	70 24 28	2953
	Pollux E.	55 56 22	2467	54 14 22	2482	52 32 44	2499	50 51 29	2514
	SUN E.	96 20 46	2797	94 46 14	2813	93 12 3	2830	91 38 14	2846
26	Fomalhaut W.	96 57 39	2757	98 33 3	2773	100 8 6	2789	101 42 48	2806
	α Pegasi W.	77 58 55	2993	79 29 16	3004	80 59 24	3014	82 29 19	3025
	α Arietis W.	34 25 3	2684	35 57 42	2676	37 30 32	2669	39 3 30	2666
	Pollux E.	42 30 37	2591	40 51 30	2607	39 12 45	2623	37 34 21	2638
	SUN E.	83 54 26	2927	82 22 42	2943	80 51 18	2959	79 20 14	2974
27	Fomalhaut W.	109 30 55	2890	111 3 27	2906	112 35 38	2924	114 7 27	2942
	α Pegasi W.	69 55 21	3087	71 23 47	3100	72 51 57	3114	74 19 50	3127
	α Arietis W.	46 48 46	2671	48 21 42	2675	49 54 33	2680	51 27 18	2684
	Pollux E.	29 27 24	2713	27 51 1	2728	26 14 58	2744	24 39 16	2759
	SUN E.	71 49 36	3048	70 20 23	3062	68 51 27	3077	67 22 49	3091
28	Fomalhaut W.	121 40 51	3034	123 10 21	3054	124 39 27	3075	126 8 7	3096
	α Pegasi W.	101 34 57	2902	103 1 4	2919	104 26 51	2935	105 52 19	2953
	α Arietis W.	59 9 16	2916	60 41 15	2923	62 13 5	2930	63 44 46	2936
	Aldebaran W.	28 16 31	2694	29 48 57	2694	31 21 23	2697	32 53 46	2900
	SUN E.	60 3 44	3155	58 36 41	3168	57 9 54	3181	55 43 22	3193
29	α Pegasi W.	112 54 26	3345	114 17 45	3365	115 40 41	3387	117 3 12	3410
	α Arietis W.	71 20 59	2979	72 51 47	2979	74 22 26	2987	75 52 55	2993
	Aldebaran W.	40 34 26	2924	42 6 15	2929	43 37 57	2935	45 9 32	2941
	SUN E.	48 34 10	3249	47 8 59	3261	45 44 2	3272	44 19 18	3282
30	α Arietis W.	83 23 13	3097	84 52 52	3034	86 22 22	3041	87 51 44	3047
	Aldebaran W.	52 45 35	2969	54 16 26	2975	55 47 10	2981	57 17 46	2986
	SUN E.	37 18 45	3337	35 55 16	3347	34 31 59	3358	33 8 55	3370
31	α Arietis W.	95 16 37	3078	96 45 13	3085	98 13 41	3091	99 42 1	3097
	Aldebaran W.	64 49 8	3013	66 19 5	3018	67 48 56	3022	69 18 41	3027
	Pollux W.	20 38 13	3092	22 7 59	3022	23 37 45	3029	25 7 30	3035
	SUN E.	26 16 59	3434	24 55 21	3450	23 34 1	3467	22 13 1	3486

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Tues.	1	^h 10 ^m 41 ^s 23.07	9.074	N. 8° 18' 9.5"	-54.45	15' 53.59"	64.41	^m 0 ^s 3.93	0.781
Wed.	2	10 45 0 71	9.062	7 56 18.6	54.78	15 53.82	64.36	0 22.80	0.793
Thur.	3	10 48 38.07	9.051	7 34 20.0	55.10	15 54.05	64.32	0 41.94	0.804
Frid.	4	10 52 15.17	9.040	7 12 13.9	-55.40	15 54.29	64.28	1 1.34	0.815
Sat.	5	10 55 52.02	9.030	6 50 0.8	55.69	15 54.53	64.25	1 20.98	0.825
SUN.	6	10 59 28.63	9.021	6 27 40.9	55.96	15 54.77	64.22	1 40.87	0.834
Mon.	7	11 3 5.02	9.012	6 5 14.7	-56.22	15 55.02	64.19	2 0.99	0.843
Tues.	8	11 6 41.21	9.004	5 42 42.6	56.46	15 55.27	64.16	2 21.29	0.851
Wed.	9	11 10 17.21	8.996	5 20 4.8	56.69	15 55.53	64.14	2 41.79	0.859
Thur.	10	11 13 53.03	8.990	4 57 21.7	-56.90	15 55.78	64.12	3 2.46	0.865
Frid.	11	11 17 28.71	8.984	4 34 33.6	57.10	15 56.04	64.10	3 23.28	0.871
Sat.	12	11 21 4.26	8.979	4 11 40.8	57.28	15 56.30	64.08	3 44.24	0.876
SUN.	13	11 24 39.69	8.975	3 48 43.7	-57.45	15 56.56	64.07	4 5.30	0.880
Mon.	14	11 28 15.03	8.972	3 25 42.7	57.61	15 56.82	64.06	4 26.45	0.883
Tues.	15	11 31 50.30	8.969	3 2 38.1	57.76	15 57.09	64.05	4 47.67	0.886
Wed.	16	11 35 25.52	8.968	2 39 30.1	-57.89	15 57.35	64.05	5 8.95	0.887
Thur.	17	11 39 0.72	8.968	2 16 19.1	58.01	15 57.61	64.05	5 30.24	0.888
Frid.	18	11 42 35.92	8.968	1 53 5.4	58.12	15 57.87	64.05	5 51.54	0.887
Sat.	19	11 46 11.15	8.969	1 29 49.3	-58.21	15 58.14	64.06	6 12.81	0.886
SUN.	20	11 49 46.42	8.972	1 6 31.0	58.29	15 58.40	64.07	6 34.04	0.885
Mon.	21	11 53 21.76	8.975	0 43 11.0	58.36	15 58.67	64.08	6 55.19	0.880
Tues.	22	11 56 57.20	8.979	N. 0 19 49.5	-58.42	15 58.93	64.09	7 16.25	0.876
Wed.	23	12 0 32.76	8.984	S. 0 3 33.2	58.46	15 59.20	64.11	7 37.18	0.871
Thur.	24	12 4 8 46	8.991	0 26 56.7	58.49	15 59.46	64.13	7 57.98	0.864
Frid.	25	12 7 44.31	8.998	0 50 20.7	-58.50	15 59.73	64.15	8 18.61	0.857
Sat.	26	12 11 20.35	9.006	1 13 44.9	58.50	16 0.00	64.17	8 39.07	0.849
SUN.	27	12 14 56.60	9.015	1 37 8.9	58.49	16 0.27	64.20	8 59.32	0.840
Mon.	28	12 18 33.07	9.025	2 0 32.5	-58.46	16 0.54	64.23	9 19.35	0.830
Tues.	29	12 22 9.78	9.035	2 23 55.2	58.41	16 0.81	64.27	9 39.13	0.820
Wed.	30	12 25 46.75	9.046	2 47 16.7	58.35	16 1.08	64.31	9 58.66	0.809
Thur.	31	12 29 24.00	9.058	S. 3 10 36.6	-58.28	16 1.35	64.35	10 17.91	0.797

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sideral time.

The sign - prefixed to the hourly change of declination indicates that north declinations are decreasing; south declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	N. [°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
Tues.	1	10 41 23.08	9.076	N. 8 18 9.4	-54.46	0 3.93	0.781	10 41 27.01
Wed.	2	10 45 0.76	9.064	7 56 18.2	54.79	0 22.80	0.793	10 45 23.56
Thur.	3	10 48 38.17	9.053	7 34 19.3	55.11	0 41.94	0.804	10 49 20.11
Frid.	4	10 52 15.32	9.042	7 12 12.9	-55.41	1 1.35	0.815	10 53 16.67
Sat.	5	10 55 52.22	9.032	6 49 59.5	55.70	1 21.00	0.825	10 57 13.22
SUN.	6	10 59 28.88	9.023	6 27 39.3	55.97	1 40.89	0.834	11 1 9.77
Mon.	7	11 3 5.32	9.014	6 5 12.8	-56.23	2 1.00	0.843	11 5 6.32
Tues.	8	11 6 41.56	9.006	5 42 40.3	56.47	2 21.32	0.851	11 9 2.88
Wed.	9	11 10 17.61	8.998	5 20 2.2	56.70	2 41.83	0.859	11 12 59.44
Thur.	10	11 13 53.48	8.992	4 57 18.8	-56.91	3 2.51	0.865	11 16 55.99
Frid.	11	11 17 29.21	8.986	4 34 30.4	57.11	3 23.33	0.871	11 20 52.54
Sat.	12	11 21 4.81	8.981	4 11 37.3	57.30	3 44.29	0.876	11 24 49.10
SUN.	13	11 24 40.29	8.977	3 48 39.9	-57.47	4 5.36	0.880	11 28 45.65
Mon.	14	11 28 15.69	8.974	3 25 38.5	57.63	4 26.51	0.883	11 32 42.20
Tues.	15	11 31 51.01	8.971	3 2 33.5	57.78	4 47.74	0.886	11 36 38.75
Wed.	16	11 35 26.29	8.970	2 39 25.2	-57.91	5 9.02	0.887	11 40 35.31
Thur.	17	11 39 1.54	8.970	2 16 13.8	58.03	5 30.32	0.888	11 44 31.86
Frid.	18	11 42 36.79	8.970	1 52 59.7	58.14	5 51.62	0.887	11 48 28.41
Sat.	19	11 46 12.07	8.971	1 29 43.3	-58.23	6 12.90	0.886	11 52 24.97
SUN.	20	11 49 47.39	8.974	1 6 24.7	58.31	6 34.13	0.883	11 56 21.52
Mon.	21	11 53 22.79	8.977	0 43 4.3	58.38	6 55.29	0.880	12 0 18.08
Tues.	22	11 56 58.28	8.981	N. 0 19 42.5	-58.44	7 16.35	0.876	12 4 14.63
Wed.	23	12 0 33.89	8.986	S. 0 3 40.6	58.46	7 37.29	0.871	12 8 11.18
Thur.	24	12 4 9.65	8.993	0 27 4.5	58.51	7 58.09	0.864	12 12 7.74
Frid.	25	12 7 45.56	9.000	0 50 28.8	-58.52	8 18.73	0.857	12 16 4.29
Sat.	26	12 11 21.65	9.008	1 13 53.3	58.52	8 39.19	0.849	12 20 0.84
SUN.	27	12 14 57.95	9.017	1 37 17.7	58.51	8 59.44	0.840	12 23 57.39
Mon.	28	12 18 34.47	9.027	2 0 41.6	-58.48	9 19.47	0.830	12 27 53.94
Tues.	29	12 22 11.24	9.037	2 24 4.6	58.43	9 39.26	0.820	12 31 50.50
Wed.	30	12 25 48.26	9.048	2 47 26.4	58.37	9 58.79	0.809	12 35 47.05
Thur.	31	12 29 25.56	9.060	S. 3 10 46.6	-58.30	10 18.04	0.797	12 39 43.60

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing; south declinations, increasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	244	158° 44' 2.7"	43' 43.1"	145.31	+ 0.54	0.0038131	-43.3	^h 13 ^m 16 ^s 22.17
2	245	159 42 11.1	41 51.4	145.39	0.56	0.0037086	43.9	13 12 26.26
3	246	160 40 21.3	40 1.5	145.46	0.55	0.0036024	44.6	13 8 30.36
4	247	161 38 33.2	38 13.3	145.53	+ 0.51	0.0034945	-45.2	13 4 34.45
5	248	162 36 46.7	36 26.7	145.60	0.44	0.0033850	45.9	13 0 38.54
6	249	163 35 1.9	34 41.8	145.67	0.34	0.0032740	46.5	12 56 42.63
7	250	164 33 18.7	32 58.5	145.73	+ 0.22	0.0031614	-47.2	12 52 46.72
8	251	165 31 37.1	31 16.8	145.80	+ 0.08	0.0030475	47.8	12 48 50.82
9	252	166 29 57.1	29 36.7	145.86	- 0.05	0.0029322	48.3	12 44 54.91
10	253	167 28 18.6	27 58.1	145.93	- 0.18	0.0028158	-48.7	12 40 59.00
11	254	168 26 41.6	26 21.0	145.99	0.30	0.0026985	49.0	12 37 3.10
12	255	169 25 6.2	24 45.4	146.06	0.41	0.0025805	49.3	12 33 7.20
13	256	170 23 32.4	23 11.5	146.13	- 0.51	0.0024618	-49.5	12 29 11.29
14	257	171 22 0.3	21 39.3	146.20	0.58	0.0023427	49.7	12 25 15.38
15	258	172 20 29.9	20 8.8	146.27	0.62	0.0022233	49.8	12 21 19.47
16	259	173 19 1.3	18 40.1	146.34	- 0.63	0.0021036	-49.8	12 17 23.56
17	260	174 17 34.4	17 13.1	146.42	0.61	0.0019839	49.9	12 13 27.65
18	261	175 16 9.3	15 47.9	146.49	0.56	0.0018642	49.9	12 9 31.74
19	262	176 14 46.1	14 24.6	146.57	- 0.48	0.0017444	-49.9	12 5 35.84
20	263	177 13 25.0	13 3.4	146.66	0.38	0.0016246	49.9	12 1 39.93
21	264	178 12 6.1	11 44.4	146.75	0.26	0.0015048	49.9	11 57 44.02
22	265	179 10 49.3	10 27.5	146.84	- 0.13	0.0013850	-49.9	11 53 48.11
23	266	180 9 34.7	9 12.8	146.94	0.00	0.0012652	49.9	11 49 52.21
24	267	181 8 22.3	8 0.3	147.03	+ 0.14	0.0011452	50.0	11 45 56.31
25	268	182 7 12.1	6 50.0	147.12	+ 0.25	0.0010249	-50.2	11 42 0.40
26	269	183 6 4.2	5 42.0	147.21	0.35	0.0009043	50.4	11 38 4.49
27	270	184 4 58.7	4 36.4	147.31	0.43	0.0007832	50.6	11 34 8.58
28	271	185 3 55.5	3 33.1	147.40	+ 0.49	0.0006616	-50.8	11 30 12.68
29	272	186 2 54.5	2 32.0	147.50	0.51	0.0005394	51.1	11 26 16.77
30	273	187 1 55.7	1 33.1	147.59	0.50	0.0004164	51.4	11 22 20.86
31	274	188 0 59.1	0 36.4	147.68	+ 0.46	0.0002928	-51.7	11 18 24.96
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								Diff. for 1 Hour, —9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	14' 51.5	14' 49.3	54' 25.0	-0.73	54' 16.9	-0.62	23 31.1	1.82	27.8
2	14 47.4	14 45.9	54 10.1	0.52	54 4.6	0.41	6		28.8
3	14 44.8	14 44.0	54 0.4	0.30	53 57.5	-0.19	0 13.6	1.73	0.2
4	14 43.6	14 43.5	53 55.9	-0.08	53 55.7	+0.05	0 54.3	1.67	1.2
5	14 43.9	14 44.6	53 57.0	+0.18	53 59.8	0.31	1 34.0	1.65	2.2
6	14 45.8	14 47.6	54 4.3	0.46	54 10.6	0.60	2 13.6	1.66	3.2
7	14 49.7	14 52.5	54 18.6	+0.76	54 28.6	+0.92	2 54.0	1.72	4.2
8	14 55.7	14 59.5	54 40.6	1.09	54 54.6	1.26	3 36.4	1.82	5.2
9	15 3.9	15 8.9	55 10.7	1.44	55 29.0	1.62	4 21.6	1.96	6.2
10	15 14.5	15 20.5	55 49.4	+1.79	56 11.7	+1.94	5 10.4	2.12	7.2
11	15 27.1	15 34.1	56 35.9	2.09	57 1.7	2.21	6 3.3	2.28	8.2
12	15 41.5	15 49.2	57 28.9	2.31	57 57.1	2.38	7 0.0	2.42	9.2
13	15 57.1	16 4.9	58 25.9	+2.40	58 54.6	+2.38	7 59.3	2.49	10.2
14	16 12.6	16 19.9	59 22.8	2.30	59 49.8	2.17	8 59.4	2.48	11.2
15	16 26.7	16 32.8	60 14.8	1.98	60 37.2	1.73	9 58.5	2.42	12.2
16	16 38.0	16 42.0	60 56.1	+1.41	61 10.9	+1.06	10 55.5	2.33	13.2
17	16 44.8	16 46.3	61 21.3	+0.66	61 26.6	+0.24	11 50.2	2.25	14.2
18	16 46.3	16 45.0	61 26.9	-0.20	61 22.0	-0.62	12 43.3	2.19	15.2
19	16 42.3	16 38.4	61 12.1	-1.02	60 57.7	-1.38	13 35.6	2.19	16.2
20	16 33.4	16 27.4	60 39.2	1.69	60 17.3	1.95	14 28.3	2.22	17.2
21	16 20.7	16 13.4	59 52.6	2.14	59 26.0	2.28	15 22.0	2.26	18.2
22	16 5.8	15 58.0	58 58.0	-2.36	58 29.4	-2.39	16 17.0	2.31	19.2
23	15 50.2	15 42.6	58 0.8	2.36	57 32.8	2.30	17 12.9	2.33	20.2
24	15 35.2	15 28.2	57 5.7	2.21	56 39.9	2.09	18 8.8	2.30	21.2
25	15 21.6	15 15.5	56 15.7	-1.94	55 53.4	-1.79	19 3.2	2.22	22.2
26	15 10.0	15 5.0	55 33.0	1.62	55 14.6	1.46	19 55.2	2.10	23.2
27	15 0.5	14 56.6	54 58.2	1.28	54 43.9	1.11	20 44.1	1.97	24.2
28	14 53.3	14 50.5	54 31.7	-0.94	54 21.4	-0.79	21 29.8	1.85	25.2
29	14 48.2	14 46.4	54 12.9	0.63	54 6.3	0.49	22 12.8	1.75	26.2
30	14 45.0	14 44.1	54 1.3	0.35	53 57.9	-0.22	22 53.8	1.68	27.2
31	14 43.6	14 43.5	53 56.1	-0.10	53 55.7	+0.03	23 33.7	1.65	28.2

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 1.					THURSDAY 3.				
0	^h 9 ^m 29 ^s 49.44	2.0343	N. 19° 58' 5.0"	9.015	0	^h 11 ^m 2 ^s 34.62	1.8443	N. 11° 25' 37.8"	11.996
1	9 31 51.36	2.0397	19 49 1.6	9.099	1	11 4 25.19	1.8414	11 13 36.8	12.037
2	9 33 53.00	2.0450	19 39 53.2	9.182	2	11 6 15.59	1.8385	11 1 33.4	12.077
3	9 35 54.36	2.0503	19 30 39.8	9.264	3	11 8 5.81	1.8357	10 49 27.6	12.116
4	9 37 55.44	2.0157	19 21 21.5	9.344	4	11 9 55.87	1.8329	10 37 19.5	12.154
5	9 39 56.25	2.0113	19 11 58.5	9.423	5	11 11 45.76	1.8302	10 25 9.1	12.192
6	9 41 56.78	2.0066	19 2 30.8	9.501	6	11 13 35.49	1.8275	10 12 56.4	12.230
7	9 43 57.04	2.0030	18 52 58.4	9.579	7	11 15 25.06	1.8248	10 0 41.5	12.266
8	9 45 57.02	1.9974	18 43 21.3	9.657	8	11 17 14.47	1.8222	9 48 24.5	12.301
9	9 47 56.73	1.9929	18 33 39.6	9.733	9	11 19 3.73	1.8197	9 36 5.4	12.336
10	9 49 56.17	1.9885	18 23 53.4	9.808	10	11 20 52.84	1.8173	9 23 44.2	12.370
11	9 51 55.35	1.9841	18 14 2.7	9.882	11	11 22 41.81	1.8149	9 11 21.0	12.402
12	9 53 54.26	1.9796	18 4 7.6	9.955	12	11 24 30.63	1.8125	8 58 55.9	12.434
13	9 55 52.90	1.9752	17 54 8.1	10.027	13	11 26 19.31	1.8102	8 46 28.9	12.466
14	9 57 51.28	1.9708	17 44 4.3	10.098	14	11 28 7.86	1.8080	8 34 0.0	12.497
15	9 59 49.40	1.9665	17 33 56.3	10.168	15	11 29 56.27	1.8058	8 21 29.2	12.527
16	10 1 47.26	1.9622	17 23 44.1	10.238	16	11 31 44.55	1.8036	8 8 56.7	12.556
17	10 3 44.86	1.9579	17 13 27.7	10.307	17	11 33 32.70	1.8015	7 56 22.5	12.584
18	10 5 42.21	1.9537	17 3 7.3	10.374	18	11 35 20.73	1.7995	7 43 46.6	12.611
19	10 7 39.30	1.9494	16 52 42.8	10.441	19	11 37 8.64	1.7975	7 31 9.1	12.638
20	10 9 36.14	1.9452	16 42 14.3	10.506	20	11 38 56.43	1.7956	7 18 30.0	12.665
21	10 11 32.73	1.9411	16 31 42.0	10.571	21	11 40 44.11	1.7937	7 5 49.3	12.691
22	10 13 29.07	1.9369	16 21 5.8	10.636	22	11 42 31.68	1.7919	6 53 7.1	12.715
23	10 15 25.16	1.9328	N. 16 10 25.7	10.699	23	11 44 19.14	1.7902	N. 6 40 23.5	12.739
WEDNESDAY 2.					FRIDAY 4.				
0	10 17 21.01	1.9288	N. 15 59 41.9	10.761	0	11 46 6.50	1.7885	N. 6 27 38.4	12.762
1	10 19 16.62	1.9248	15 48 54.4	10.822	1	11 47 53.76	1.7868	6 14 52.0	12.784
2	10 21 11.99	1.9208	15 38 3.2	10.883	2	11 49 40.92	1.7852	5 2 4.3	12.806
3	10 23 7.12	1.9169	15 27 8.4	10.943	3	11 51 27.99	1.7837	5 49 15.3	12.827
4	10 25 2.02	1.9131	15 16 10.1	11.002	4	11 53 14.97	1.7823	5 36 25.0	12.847
5	10 26 56.69	1.9092	15 5 8.2	11.060	5	11 55 1.87	1.7809	5 23 33.6	12.866
6	10 28 51.12	1.9054	14 54 2.9	11.117	6	11 56 48.68	1.7795	5 10 41.1	12.884
7	10 30 45.33	1.9016	14 42 54.2	11.172	7	11 58 35.41	1.7782	4 57 47.5	12.902
8	10 32 39.31	1.8978	14 31 42.2	11.227	8	12 0 22.07	1.7770	4 44 52.8	12.920
9	10 34 33.07	1.8942	14 20 26.9	11.282	9	12 2 8.65	1.7758	4 31 57.1	12.937
10	10 36 26.61	1.8906	14 9 8.3	11.336	10	12 3 55.17	1.7747	4 19 0.4	12.952
11	10 38 19.94	1.8870	13 57 46.6	11.388	11	12 5 41.02	1.7737	4 6 2.8	12.967
12	10 40 13.05	1.8834	13 46 21.8	11.439	12	12 7 28.01	1.7727	3 53 4.3	12.982
13	10 42 5.95	1.8799	13 34 53.9	11.490	13	12 9 14.34	1.7717	3 40 5.0	12.995
14	10 43 58.64	1.8764	13 23 23.0	11.540	14	12 11 0.62	1.7709	3 27 4.9	13.006
15	10 45 51.12	1.8730	13 11 49.1	11.590	15	12 12 46.85	1.7701	3 14 4.0	13.021
16	10 47 43.40	1.8697	13 0 12.2	11.639	16	12 14 33.03	1.7693	3 1 2.4	13.032
17	10 49 35.48	1.8663	12 48 32.4	11.686	17	12 16 19.17	1.7686	2 48 0.2	13.043
18	10 51 27.35	1.8629	12 36 49.8	11.732	18	12 18 5.26	1.7679	2 34 57.3	13.053
19	10 53 19.03	1.8597	12 25 4.5	11.778	19	12 19 51.92	1.7674	2 21 53.8	13.062
20	10 55 10.52	1.8566	12 13 16.4	11.824	20	12 21 37.35	1.7669	2 8 49.8	13.070
21	10 57 1.82	1.8535	12 1 25.6	11.868	21	12 23 23.35	1.7664	1 55 45.4	13.078
22	10 58 52.94	1.8504	11 49 32.2	11.911	22	12 25 9.32	1.7660	1 42 40.5	13.086
23	11 0 43.87	1.8473	11 37 36.3	11.954	23	12 26 55.27	1.7657	1 29 35.1	13.093
24	11 2 34.62	1.8443	N. 11 25 37.8	11.996	24	12 28 41.21	1.7655	N. 1 16 29.3	13.099

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 5.					MONDAY 7.				
0	12 28 41.21	1.7655	N. 1° 16' 29.3"	13.009	0	13 54 18.58	1.8966	S. 9° 5' 31.7"	12.544
1	12 30 27.13	1.7653	1 3 23.2	13.103	1	13 56 8.26	1.8994	9 18 3.5	12.515
2	12 32 13.04	1.7652	0 50 16.9	13.107	2	13 57 58.11	1.8392	9 30 33.5	12.484
3	12 33 58.95	1.7651	0 37 10.3	13.111	3	13 59 48.13	1.8352	9 43 1.6	12.453
4	12 35 44.85	1.7650	0 24 3.5	13.114	4	14 1 38.34	1.8383	9 55 27.8	12.421
5	12 37 30.75	1.7651	N. 0 10 56.6	13.117	5	14 3 28.73	1.8414	10 7 52.1	12.388
6	12 39 16.66	1.7652	S. 0 2 10.5	13.118	6	14 5 19.31	1.8446	10 20 14.4	12.355
7	12 41 2.57	1.7653	0 15 17.6	13.119	7	14 7 10.08	1.8478	10 32 34.7	12.321
8	12 42 48.50	1.7656	0 28 24.8	13.120	8	14 9 1.05	1.8511	10 44 52.9	12.286
9	12 44 34.44	1.7659	0 41 32.0	13.119	9	14 10 52.21	1.8544	10 57 9.0	12.251
10	12 46 20.40	1.7662	0 54 39.1	13.118	10	14 12 43.58	1.8578	11 9 23.0	12.214
11	12 48 6.38	1.7666	1 7 46.1	13.116	11	14 14 35.15	1.8612	11 21 34.7	12.176
12	12 49 52.39	1.7671	1 20 53.0	13.113	12	14 16 26.93	1.8648	11 33 44.1	12.137
13	12 51 38.43	1.7677	1 33 59.7	13.110	13	14 18 18.93	1.8685	11 45 51.2	12.098
14	12 53 24.51	1.7682	1 47 6.2	13.106	14	14 20 11.15	1.8721	11 57 55.9	12.059
15	12 55 10.62	1.7688	2 0 12.4	13.101	15	14 22 3.58	1.8758	12 9 58.3	12.019
16	12 56 56.77	1.7696	2 13 18.3	13.096	16	14 23 56.24	1.8797	12 21 58.2	11.977
17	12 58 42.97	1.7704	2 26 23.9	13.090	17	14 25 49.14	1.8836	12 33 55.5	11.934
18	13 0 29.22	1.7712	2 39 29.1	13.083	18	14 27 42.27	1.8874	12 45 50.2	11.890
19	13 2 15.52	1.7722	2 52 33.9	13.076	19	14 29 35.63	1.8914	12 57 42.3	11.847
20	13 4 1.88	1.7732	3 5 38.2	13.067	20	14 31 29.24	1.8955	13 9 31.8	11.802
21	13 5 48.30	1.7743	3 18 41.9	13.057	21	14 33 23.09	1.8996	13 21 18.5	11.755
22	13 7 34.79	1.7754	3 31 45.0	13.046	22	14 35 17.19	1.9037	13 33 2.4	11.708
23	13 9 21.35	1.7765	S. 3 44 47.6	13.036	23	14 37 11.54	1.9079	S. 13 44 43.5	11.661
SUNDAY 6.					TUESDAY 8.				
0	13 11 7.97	1.7777	S. 3 57 49.6	13.027	0	14 39 6.14	1.9122	S. 13 56 21.8	11.613
1	13 12 54.67	1.7790	4 10 50.9	13.015	1	14 41 1.00	1.9165	14 7 57.1	11.563
2	13 14 41.45	1.7804	4 23 51.4	13.003	2	14 42 56.12	1.9209	14 19 29.4	11.513
3	13 16 28.32	1.7819	4 36 51.2	12.990	3	14 44 51.51	1.9254	14 30 58.7	11.463
4	13 18 15.28	1.7833	4 49 50.2	12.976	4	14 46 47.17	1.9299	14 42 24.9	11.410
5	13 20 2.32	1.7848	5 2 48.3	12.961	5	14 48 43.10	1.9345	14 53 47.9	11.356
6	13 21 49.45	1.7863	5 15 45.5	12.946	6	14 50 39.31	1.9392	15 5 7.6	11.302
7	13 23 36.68	1.7881	5 28 41.8	12.930	7	14 52 35.80	1.9439	15 16 24.1	11.247
8	13 25 24.02	1.7899	5 41 37.1	12.913	8	14 54 32.57	1.9486	15 27 37.3	11.192
9	13 27 11.47	1.7917	5 54 31.3	12.895	9	14 56 29.63	1.9534	15 38 47.1	11.135
10	13 28 59.03	1.7936	6 7 24.5	12.877	10	14 58 26.98	1.9582	15 49 53.5	11.077
11	13 30 46.70	1.7955	6 20 16.6	12.858	11	15 0 24.62	1.9631	16 0 56.4	11.018
12	13 32 34.49	1.7975	6 33 7.5	12.838	12	15 2 22.55	1.9680	16 11 55.7	10.958
13	13 34 22.40	1.7996	6 45 57.2	12.818	13	15 4 20.78	1.9731	16 22 51.4	10.898
14	13 36 10.44	1.8017	6 58 45.6	12.797	14	15 6 19.32	1.9782	16 33 43.5	10.836
15	13 37 58.60	1.8039	7 11 32.8	12.776	15	15 8 18.17	1.9834	16 44 31.8	10.773
16	13 39 46.90	1.8062	7 24 18.7	12.752	16	15 10 17.33	1.9886	16 55 16.3	10.710
17	13 41 35.34	1.8085	7 37 3.1	12.728	17	15 12 16.80	1.9938	17 5 57.0	10.647
18	13 43 23.92	1.8109	7 49 46.1	12.704	18	15 14 16.59	1.9991	17 16 33.9	10.582
19	13 45 12.65	1.8133	8 2 27.6	12.679	19	15 16 16.70	2.0045	17 27 6.8	10.514
20	13 47 1.52	1.8158	8 15 7.6	12.654	20	15 18 17.13	2.0098	17 37 35.6	10.446
21	13 48 50.54	1.8184	8 27 46.1	12.628	21	15 20 17.88	2.0152	17 48 0.3	10.377
22	13 50 39.72	1.8211	8 40 23.0	12.601	22	15 22 18.96	2.0207	17 58 20.9	10.308
23	13 52 29.07	1.8238	8 52 58.2	12.573	23	15 24 20.37	2.0263	18 8 37.3	10.237
24	13 54 18.58	1.8266	S. 9 5 31.7	12.544	24	15 26 22.12	2.0319	S. 18 18 49.4	10.166

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 9.					FRIDAY 11.				
0	^h 15 ^m 26 ^s 22.12	2.0319	S. 18° 18' 49.4"	10.166	0	^h 17 ^m 10 ^s 57.30	2.3312	S. 24° 42' 49.6"	5.381
1	15 28 24.20	2.0375	18 28 57.2	10.093	1	17 13 17.36	2.3374	24 48 8.6	5.552
2	15 30 26.62	2.0432	18 39 0.6	10.019	2	17 15 37.79	2.3437	24 53 19.8	5.192
3	15 32 29.39	2.0490	18 48 59.5	9.944	3	17 17 58.60	2.3499	24 58 23.2	4.991
4	15 34 32.50	2.0548	18 58 53.8	9.868	4	17 20 19.78	2.3559	25 3 18.7	4.858
5	15 36 35.96	2.0606	19 8 43.6	9.792	5	17 22 41.31	2.3618	25 6 6.2	4.794
6	15 38 39.77	2.0664	19 18 28.8	9.714	6	17 25 3.20	2.3678	25 12 45.6	4.588
7	15 40 43.93	2.0723	19 28 9.3	9.634	7	17 27 25.45	2.3738	25 17 16.8	4.452
8	15 42 48.45	2.0782	19 37 44.9	9.553	8	17 29 48.06	2.3798	25 21 39.9	4.316
9	15 44 53.32	2.0842	19 47 15.6	9.471	9	17 32 11.03	2.3857	25 25 54.7	4.177
10	15 46 58.55	2.0902	19 56 41.4	9.389	10	17 34 34.35	2.3915	25 30 1.1	4.037
11	15 49 4.14	2.0962	20 6 2.3	9.306	11	17 36 58.01	2.3972	25 33 59.1	3.897
12	15 51 10.10	2.1023	20 15 18.1	9.221	12	17 39 22.02	2.4030	25 37 48.7	3.755
13	15 53 16.42	2.1084	20 24 28.8	9.135	13	17 41 46.37	2.4086	25 41 29.7	3.612
14	15 55 23.11	2.1146	20 33 34.3	9.048	14	17 44 11.05	2.4142	25 45 2.1	3.467
15	15 57 30.17	2.1207	20 42 34.6	8.960	15	17 46 36.07	2.4197	25 48 25.8	3.322
16	15 59 37.60	2.1269	20 51 29.5	8.870	16	17 49 1.41	2.4251	25 51 40.7	3.175
17	16 1 45.40	2.1332	21 0 19.0	8.780	17	17 51 27.08	2.4305	25 54 46.8	3.028
18	16 3 53.58	2.1395	21 9 3.1	8.688	18	17 53 53.07	2.4358	25 57 44.1	2.880
19	16 6 2.14	2.1457	21 17 41.6	8.595	19	17 56 19.38	2.4410	26 0 32.4	2.730
20	16 8 11.07	2.1520	21 26 14.5	8.502	20	17 58 45.99	2.4461	26 3 11.7	2.579
21	16 10 20.38	2.1583	21 34 41.8	8.407	21	18 1 12.91	2.4512	26 5 41.9	2.427
22	16 12 30.07	2.1647	21 43 3.3	8.310	22	18 3 40.13	2.4563	26 8 3.0	2.275
23	16 14 40.14	2.1711	S. 21° 51' 19.0"	8.212	23	18 6 7.65	2.4613	S. 26° 10' 14.9"	2.122
THURSDAY 10.					SATURDAY 12.				
0	16 16 50.60	2.1775	S. 21° 59' 28.8"	8.113	0	18 8 35.47	2.4660	S. 26° 12' 17.6"	1.967
1	16 19 1.44	2.1838	22 7 32.6	8.013	1	18 11 3.57	2.4707	26 14 10.9	1.811
2	16 21 12.66	2.1902	22 15 30.4	7.912	2	18 13 31.95	2.4753	26 15 54.9	1.655
3	16 23 24.27	2.1967	22 23 22.1	7.810	3	18 16 0.61	2.4799	26 17 29.5	1.497
4	16 25 36.26	2.2031	22 31 7.6	7.707	4	18 18 29.54	2.4844	26 18 54.6	1.339
5	16 27 48.64	2.2096	22 38 46.9	7.603	5	18 20 58.74	2.4887	26 20 10.2	1.180
6	16 30 1.41	2.2161	22 46 19.9	7.497	6	18 23 28.19	2.4930	26 21 16.2	1.019
7	16 32 14.57	2.2225	22 53 46.5	7.389	7	18 25 57.90	2.4972	26 22 12.5	0.858
8	16 34 28.11	2.2289	23 1 6.6	7.281	8	18 28 27.86	2.5013	26 22 59.2	0.697
9	16 36 42.04	2.2354	23 8 20.2	7.172	9	18 30 58.06	2.5059	26 23 36.2	0.535
10	16 38 56.36	2.2419	23 15 27.2	7.061	10	18 33 28.49	2.5090	26 24 3.4	0.372
11	16 41 11.07	2.2483	23 22 27.5	6.948	11	18 35 59.14	2.5127	26 24 20.8	0.207
12	16 43 26.16	2.2547	23 29 21.0	6.835	12	18 38 30.01	2.5163	26 24 28.3	- 0.042
13	16 45 41.64	2.2612	23 36 7.7	6.721	13	18 41 1.10	2.5199	26 24 25.9	+ 0.123
14	16 47 57.51	2.2677	23 42 47.5	6.605	14	18 43 32.40	2.5234	26 24 13.5	0.289
15	16 50 13.76	2.2741	23 49 20.3	6.488	15	18 46 3.91	2.5267	26 23 51.2	0.456
16	16 52 30.40	2.2806	23 55 46.0	6.370	16	18 48 35.61	2.5299	26 23 18.8	0.624
17	16 54 47.43	2.2870	24 2 4.7	6.252	17	18 51 7.50	2.5331	26 22 36.3	0.792
18	16 57 4.84	2.2933	24 8 16.2	6.131	18	18 53 39.58	2.5361	26 21 43.7	0.961
19	16 59 22.63	2.2997	24 14 20.4	6.008	19	18 56 11.83	2.5389	26 20 41.0	1.130
20	17 1 40.81	2.3061	24 20 17.2	5.885	20	18 58 44.25	2.5416	26 19 28.1	1.300
21	17 3 59.37	2.3124	24 26 6.6	5.761	21	19 1 16.82	2.5442	26 18 5.0	1.470
22	17 6 18.30	2.3187	24 31 48.5	5.636	22	19 3 49.55	2.5467	26 16 31.7	1.641
23	17 8 37.61	2.3250	24 37 22.9	5.509	23	19 6 22.43	2.5491	26 14 48.1	1.812
24	17 10 57.30	2.3312	S. 24° 42' 49.6"	5.381	24	19 8 55.44	2.5513	S. 26° 12' 54.3"	1.982

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 13.					TUESDAY 15.				
0	19 8 55.44	2.5513	S. 26 12' 54.3	1.992	0	21 11 43.60	2.5941	S. 21 19' 33.8	10.090
1	19 11 28.58	2.5534	26 10 50.2	2.155	1	21 14 14.96	2.5919	21 9 23.8	10.242
2	19 14 1.85	2.5555	26 8 35.7	2.328	2	21 16 46.14	2.5182	20 59 4.7	10.394
3	19 16 35.25	2.5575	26 6 10.8	2.501	3	21 19 17.14	2.5159	20 48 36.5	10.545
4	19 19 8.75	2.5592	26 3 35.5	2.674	4	21 21 47.96	2.5131	20 37 59.3	10.694
5	19 21 42.35	2.5607	26 0 49.9	2.847	5	21 24 18.59	2.5090	20 27 13.2	10.842
6	19 24 16.04	2.5622	25 57 53.9	3.020	6	21 26 49.04	2.5058	20 16 18.3	10.992
7	19 26 49.82	2.5637	25 54 47.5	3.194	7	21 29 19.29	2.5026	20 5 14.6	11.134
8	19 29 23.68	2.5650	25 51 30.6	3.368	8	21 31 49.35	2.4994	19 54 2.2	11.277
9	19 31 57.62	2.5668	25 48 3.3	3.542	9	21 34 19.22	2.4969	19 42 41.3	11.419
10	19 34 31.63	2.5672	25 44 25.5	3.717	10	21 36 48.89	2.4928	19 31 11.9	11.561
11	19 37 5.69	2.5681	25 40 37.3	3.891	11	21 39 18.35	2.4893	19 19 34.0	11.701
12	19 39 39.80	2.5688	25 36 38.6	4.065	12	21 41 47.61	2.4859	19 7 47.8	11.839
13	19 42 13.95	2.5695	25 32 29.5	4.239	13	21 44 16.66	2.4825	18 55 53.3	11.976
14	19 44 48.14	2.5701	25 28 9.9	4.414	14	21 46 45.51	2.4791	18 43 50.7	12.111
15	19 47 22.36	2.5705	25 23 39.8	4.588	15	21 49 14.15	2.4756	18 31 40.0	12.245
16	19 49 56.60	2.5708	25 18 59.3	4.763	16	21 51 42.58	2.4720	18 19 21.3	12.377
17	19 52 30.86	2.5710	25 14 8.3	4.937	17	21 54 10.79	2.4684	18 6 54.7	12.507
18	19 55 5.12	2.5710	25 9 6.9	5.110	18	21 56 38.79	2.4648	17 54 20.4	12.636
19	19 57 39.38	2.5710	25 3 55.1	5.283	19	21 59 6.57	2.4613	17 41 38.4	12.764
20	20 0 13.64	2.5708	24 58 32.9	5.457	20	22 1 34.14	2.4577	17 28 48.7	12.891
21	20 2 47.88	2.5705	24 53 0.2	5.631	21	22 4 1.49	2.4540	17 15 51.5	13.015
22	20 5 22.10	2.5701	24 47 17.1	5.804	22	22 6 28.62	2.4503	17 2 46.9	13.137
23	20 7 56.29	2.5696	S. 24 41 23.7	5.976	23	22 8 55.53	2.4467	S. 16 49 35.0	13.259
MONDAY 14.					WEDNESDAY 16.				
0	20 10 30.45	2.5690	S. 24 35 20.0	6.149	0	22 11 22.23	2.4431	S. 16 36 15.8	13.379
1	20 13 4.57	2.5682	24 29 5.9	6.321	1	22 13 48.71	2.4394	16 22 49.5	13.496
2	20 15 38.63	2.5673	24 22 41.5	6.492	2	22 16 14.96	2.4357	16 9 16.3	13.611
3	20 18 12.64	2.5663	24 16 6.9	6.662	3	22 18 40.99	2.4320	15 55 36.2	13.725
4	20 20 46.59	2.5652	24 9 22.0	6.833	4	22 21 6.80	2.4284	15 41 49.3	13.837
5	20 23 20.47	2.5641	24 2 26.9	7.003	5	22 23 32.40	2.4247	15 27 55.7	13.947
6	20 25 54.28	2.5628	23 55 21.6	7.173	6	22 25 57.77	2.4210	15 13 55.6	14.056
7	20 28 28.01	2.5614	23 48 6.1	7.342	7	22 28 22.92	2.4174	14 59 49.0	14.163
8	20 31 1.65	2.5598	23 40 40.5	7.510	8	22 30 47.86	2.4138	14 45 36.0	14.268
9	20 33 35.19	2.5582	23 33 4.9	7.677	9	22 33 12.58	2.4102	14 31 16.8	14.373
10	20 36 8.64	2.5566	23 25 19.3	7.844	10	22 35 37.09	2.4066	14 16 51.4	14.473
11	20 38 41.99	2.5548	23 17 23.6	8.011	11	22 38 1.38	2.4030	14 2 20.0	14.572
12	20 41 15.22	2.5529	23 9 18.0	8.176	12	22 40 25.45	2.3994	13 47 42.7	14.670
13	20 43 48.34	2.5510	23 1 2.5	8.341	13	22 42 49.31	2.3959	13 32 59.6	14.766
14	20 46 21.34	2.5489	22 52 37.1	8.504	14	22 45 12.96	2.3923	13 18 10.8	14.859
15	20 48 54.21	2.5467	22 44 2.0	8.667	15	22 47 36.39	2.3888	13 3 16.5	14.951
16	20 51 26.95	2.5445	22 35 17.1	8.829	16	22 49 59.61	2.3853	12 48 16.7	15.041
17	20 53 59.55	2.5422	22 26 22.5	8.990	17	22 52 22.63	2.3819	12 33 11.6	15.129
18	20 56 32.02	2.5399	22 17 18.3	9.150	18	22 54 45.44	2.3785	12 18 1.2	15.216
19	20 59 4.34	2.5374	22 8 4.5	9.310	19	22 57 8.05	2.3751	12 2 45.7	15.309
20	21 1 36.51	2.5348	21 58 41.1	9.468	20	22 59 30.45	2.3717	11 47 25.3	15.381
21	21 4 8.52	2.5322	21 49 8.3	9.625	21	23 1 52.65	2.3684	11 32 0.0	15.461
22	21 6 40.38	2.5296	21 39 26.1	9.781	22	23 4 14.65	2.3651	11 16 30.0	15.538
23	21 9 12.07	2.5269	21 29 34.6	9.936	23	23 6 36.46	2.3618	11 0 55.4	15.615
24	21 11 43.60	2.5241	S. 21 19 33.8	10.090	24	23 8 58.07	2.3586	S. 10 45 16.2	15.690

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 17.					SATURDAY 19.				
0	^h 23 ^m 8 ^s 58.07	2.3586	S. 10° 45' 16.2	15.690	0	^h 0 ^m 59 ^s 27.27	2.3683	N. 2° 34' 12.6	16.834
1	23 11 19.49	2.3554	10 29 32.6	15.762	1	1 1 43.35	2.3679	2 51 1.9	16.806
2	23 13 40.72	2.3522	10 13 44.8	15.831	2	1 3 59.42	2.3676	3 7 49.6	16.780
3	23 16 1.76	2.3499	9 57 52.9	15.899	3	1 6 15.47	2.3674	3 24 35.5	16.750
4	23 18 22.62	2.3469	9 41 56.9	15.966	4	1 8 31.51	2.3673	3 41 19.6	16.719
5	23 20 43.30	2.3439	9 25 57.0	16.030	5	1 10 47.55	2.3673	3 58 1.8	16.687
6	23 23 3.80	2.3409	9 9 53.3	16.092	6	1 13 3.58	2.3672	4 14 42.0	16.652
7	23 25 24.12	2.3373	8 53 46.0	16.152	7	1 15 19.61	2.3673	4 31 20.0	16.614
8	23 27 44.27	2.3344	8 37 35.1	16.210	8	1 17 35.65	2.3674	4 47 55.7	16.574
9	23 30 4.25	2.3316	8 21 20.8	16.265	9	1 19 51.70	2.3676	5 4 28.9	16.533
10	23 32 24.06	2.3288	8 5 3.3	16.318	10	1 22 7.76	2.3678	5 20 59.6	16.491
11	23 34 43.70	2.3260	7 48 42.6	16.371	11	1 24 23.84	2.3681	5 37 27.8	16.446
12	23 37 3.18	2.3233	7 32 18.8	16.421	12	1 26 39.94	2.3685	5 53 53.2	16.399
13	23 39 22.50	2.3207	7 15 52.1	16.468	13	1 28 56.06	2.3689	6 10 15.7	16.351
14	23 41 41.67	2.3182	6 59 22.7	16.513	14	1 31 12.21	2.3694	6 26 35.3	16.302
15	23 44 0.69	2.3157	6 42 50.6	16.556	15	1 33 28.39	2.3699	6 42 51.9	16.250
16	23 46 19.56	2.3133	6 26 16.0	16.597	16	1 35 44.60	2.3705	6 59 5.3	16.196
17	23 48 38.29	2.3110	6 9 38.9	16.637	17	1 38 0.85	2.3711	7 15 15.4	16.141
18	23 50 56.88	2.3087	5 52 59.5	16.674	18	1 40 17.14	2.3718	7 31 22.2	16.084
19	23 53 15.33	2.3064	5 36 18.0	16.708	19	1 42 33.47	2.3726	7 47 25.5	16.025
20	23 55 33.65	2.3042	5 19 34.5	16.742	20	1 44 49.85	2.3735	8 3 25.2	15.963
21	23 57 51.83	2.3020	5 2 49.0	16.773	21	1 47 6.29	2.3744	8 19 21.1	15.900
22	0 0 9.89	2.2999	4 46 1.7	16.802	22	1 49 22.78	2.3753	8 35 13.2	15.837
23	0 2 27.82	2.2978	S. 4 29 12.8	16.826	23	1 51 39.33	2.3763	N. 8 51 1.5	15.772
FRIDAY 18.					SUNDAY 20.				
0	0 4 45.63	2.2958	S. 4 12 22.3	16.853	0	1 53 55.94	2.3773	N. 9 6 45.8	15.704
1	0 7 3.32	2.2940	3 55 30.4	16.876	1	1 56 12.61	2.3784	9 22 26.0	15.635
2	0 9 20.91	2.2922	3 38 37.2	16.897	2	1 58 29.35	2.3796	9 38 2.0	15.563
3	0 11 38.39	2.2904	3 21 42.8	16.915	3	2 0 46.16	2.3808	9 53 33.6	15.490
4	0 13 55.76	2.2887	3 4 47.4	16.931	4	2 3 3.04	2.3820	10 9 0.8	15.417
5	0 16 13.03	2.2871	2 47 51.1	16.946	5	2 5 20.00	2.3832	10 24 23.6	15.341
6	0 18 30.21	2.2855	2 30 53.9	16.958	6	2 7 37.03	2.3845	10 39 41.8	15.263
7	0 20 47.29	2.2839	2 13 56.1	16.968	7	2 9 54.14	2.3859	10 54 55.2	15.184
8	0 23 4.28	2.2825	1 56 57.7	16.977	8	2 12 11.34	2.3874	11 10 3.9	15.104
9	0 25 21.19	2.2811	1 39 58.9	16.983	9	2 14 28.63	2.3889	11 25 7.7	15.022
10	0 27 38.02	2.2798	1 22 59.7	16.987	10	2 16 46.01	2.3904	11 40 6.5	14.938
11	0 29 54.77	2.2785	1 6 0.4	16.989	11	2 19 3.48	2.3919	11 55 0.2	14.853
12	0 32 11.44	2.2773	0 49 1.0	16.989	12	2 21 21.04	2.3935	12 9 48.8	14.766
13	0 34 28.04	2.2762	0 32 1.7	16.987	13	2 23 38.70	2.3953	12 24 32.1	14.677
14	0 36 44.58	2.2752	S. 0 15 2.6	16.983	14	2 25 56.46	2.3968	12 39 10.1	14.587
15	0 39 1.06	2.2742	N. 0 1 56.3	16.977	15	2 28 14.31	2.3984	12 53 42.6	14.496
16	0 41 17.48	2.2733	0 18 54.7	16.969	16	2 30 32.27	2.3999	13 8 9.6	14.403
17	0 43 33.85	2.2724	0 35 52.6	16.959	17	2 32 50.34	2.3990	13 22 31.0	14.309
18	0 45 50.17	2.2716	0 52 49.8	16.947	18	2 35 8.51	2.3998	13 36 46.7	14.213
19	0 48 6.44	2.2708	1 9 46.3	16.933	19	2 37 26.79	2.3956	13 50 56.6	14.117
20	0 50 22.67	2.2702	1 26 41.8	16.917	20	2 39 45.18	2.3975	14 5 0.7	14.018
21	0 52 38.87	2.2696	1 43 36.3	16.899	21	2 42 3.69	2.3994	14 18 58.8	13.918
22	0 54 55.03	2.2691	2 0 29.7	16.879	22	2 44 22.31	2.3113	14 32 50.9	13.817
23	0 57 11.16	2.2687	2 17 21.8	16.857	23	2 46 41.04	2.3139	14 46 36.8	13.714
24	0 59 27.27	2.2683	N. 2 31 12.6	16.834	24	2 48 59.89	2.3152	N. 15 0 16.5	13.610

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 21.					WEDNESDAY 23.				
0	2 48 59.89	2.3152	N.15 0 16.5	13.610	0	4 42 26.46	2.4047	N.23 31 58.6	7.357
1	2 51 18.86	2.3172	15 13 50.0	13.565	1	4 44 50.77	2.4058	23 39 15.5	7.207
2	2 53 37.95	2.3192	15 27 17.1	13.397	2	4 47 15.15	2.4068	23 46 23.5	7.058
3	2 55 57.16	2.3212	15 40 37.7	13.289	3	4 49 39.59	2.4077	23 53 22.5	6.908
4	2 58 16.49	2.3232	15 53 51.8	13.181	4	4 52 4.08	2.4086	24 0 12.5	6.758
5	3 0 35.94	2.3252	16 6 59.4	13.071	5	4 54 28.62	2.4094	24 6 53.5	6.607
6	3 2 55.52	2.3273	16 20 0.3	12.958	6	4 56 53.21	2.4102	24 13 25.4	6.456
7	3 5 15.22	2.3294	16 32 54.4	12.845	7	4 59 17.84	2.4109	24 19 48.2	6.305
8	3 7 35.05	2.3315	16 45 41.7	12.731	8	5 1 42.51	2.4115	24 26 2.0	6.154
9	3 9 55.00	2.3336	16 58 22.1	12.615	9	5 4 7.22	2.4121	24 32 6.7	6.002
10	3 12 15.08	2.3357	17 10 55.5	12.498	10	5 6 31.96	2.4126	24 38 2.2	5.849
11	3 14 35.28	2.3378	17 23 21.9	12.381	11	5 8 56.73	2.4130	24 43 48.6	5.697
12	3 16 55.61	2.3399	17 35 41.2	12.262	12	5 11 21.52	2.4133	24 49 25.9	5.545
13	3 19 16.07	2.3421	17 47 53.3	12.142	13	5 13 46.33	2.4136	24 54 54.0	5.392
14	3 21 36.66	2.3442	17 59 58.2	12.020	14	5 16 11.15	2.4138	25 0 12.9	5.239
15	3 23 57.37	2.3463	18 11 55.7	11.897	15	5 18 35.98	2.4139	25 5 22.7	5.086
16	3 26 18.21	2.3484	18 23 45.8	11.774	16	5 21 0.82	2.4139	25 10 23.3	4.932
17	3 28 39.18	2.3506	18 35 28.5	11.650	17	5 23 25.65	2.4138	25 15 14.6	4.778
18	3 31 0.28	2.3527	18 47 3.8	11.525	18	5 25 50.48	2.4137	25 19 56.7	4.625
19	3 33 21.50	2.3548	18 58 31.5	11.397	19	5 28 15.30	2.4136	25 24 29.6	4.472
20	3 35 42.85	2.3569	19 9 51.5	11.269	20	5 30 40.11	2.4133	25 28 53.3	4.318
21	3 38 4.33	2.3590	19 21 3.8	11.140	21	5 33 4.90	2.4130	25 33 7.8	4.164
22	3 40 25.93	2.3610	19 32 8.3	11.011	22	5 35 29.07	2.4125	25 37 13.0	4.010
23	3 42 47.65	2.3630	N.19 43 5.1	10.881	23	5 37 54.40	2.4119	N.25 41 9.0	3.857
TUESDAY 22.					THURSDAY 24.				
0	3 45 9.49	2.3650	N.19 53 54.0	10.749	0	5 40 19.10	2.4114	N.25 44 55.8	3.703
1	3 47 31.45	2.3671	20 4 35.0	10.617	1	5 42 43.77	2.4107	25 48 33.4	3.550
2	3 49 53.54	2.3692	20 15 8.0	10.483	2	5 45 8.39	2.4099	25 52 1.8	3.396
3	3 52 15.75	2.3713	20 25 32.9	10.348	3	5 47 32.96	2.4090	25 55 20.9	3.242
4	3 54 38.08	2.3731	20 35 49.7	10.213	4	5 49 57.47	2.4081	25 58 30.8	3.089
5	3 57 0.52	2.3750	20 45 58.5	10.078	5	5 52 21.93	2.4072	26 1 31.6	2.936
6	3 59 23.08	2.3769	20 55 59.1	9.941	6	5 54 46.33	2.4061	26 4 23.1	2.782
7	4 1 45.75	2.3788	21 5 51.4	9.803	7	5 57 10.66	2.4049	26 7 5.4	2.629
8	4 4 8.53	2.3807	21 15 35.4	9.665	8	5 59 34.91	2.4036	26 9 38.6	2.477
9	4 6 31.43	2.3825	21 25 11.2	9.527	9	6 1 59.09	2.4023	26 12 2.6	2.324
10	4 8 54.43	2.3843	21 34 38.6	9.388	10	6 4 23.19	2.4008	26 14 17.5	2.172
11	4 11 17.54	2.3861	21 43 57.5	9.244	11	6 6 47.19	2.3993	26 16 23.2	2.019
12	4 13 40.76	2.3878	21 53 7.9	9.103	12	6 9 11.10	2.3977	26 18 19.8	1.867
13	4 16 4.08	2.3894	22 2 9.8	8.961	13	6 11 34.91	2.3960	26 20 7.3	1.716
14	4 18 27.49	2.3910	22 11 3.2	8.818	14	6 13 58.62	2.3942	26 21 45.7	1.565
15	4 20 51.00	2.3926	22 19 48.0	8.675	15	6 16 22.21	2.3923	26 23 15.1	1.414
16	4 23 14.60	2.3941	22 28 24.2	8.531	16	6 18 45.69	2.3904	26 24 35.4	1.263
17	4 25 38.29	2.3957	22 36 51.7	8.386	17	6 21 9.06	2.3884	26 25 46.7	1.112
18	4 28 2.95	2.3972	22 45 10.5	8.240	18	6 23 32.30	2.3863	26 26 48.9	0.962
19	4 30 25.95	2.3986	22 53 20.5	8.094	19	6 25 55.41	2.3841	26 27 42.2	0.813
20	4 32 49.90	2.3998	23 1 21.8	7.948	20	6 28 18.39	2.3818	26 28 26.5	0.663
21	4 35 13.93	2.4011	23 9 14.3	7.801	21	6 30 41.23	2.3795	26 29 1.8	0.514
22	4 37 38.03	2.4024	23 16 57.9	7.654	22	6 33 3.93	2.3770	26 29 28.2	0.366
23	4 40 2.21	2.4036	23 24 32.7	7.506	23	6 35 26.47	2.3744	26 29 45.8	0.219
24	4 42 26.46	2.4047	N.23 31 58.6	7.357	24	6 37 48.86	2.3718	N.26 29 54.5	+ 0.072

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 25.					SUNDAY 27.				
0	h m s	s	N. 26° 29' 54.5"	+ 0.072	0	h m s	s	N. 23° 55' 43.2"	6.300
1	6 37 48.86	2.3718	26 29 54.4	- 0.075	1	8 27 24.75	2.1755	23 49 27.9	6.310
2	6 40 11.09	2.3692	26 29 45.5	0.222	2	8 29 35.13	2.1705	23 43 6.0	6.420
3	6 42 33.16	2.3664	26 29 27.8	0.368	3	8 31 45.21	2.1655	23 36 37.5	6.526
4	6 44 55.06	2.3636	26 29 1.3	0.513	4	8 33 54.99	2.1604	23 30 2.6	6.635
5	6 47 16.79	2.3607	26 28 26.2	0.657	5	8 36 4.46	2.1553	23 23 21.3	6.742
6	6 49 38.34	2.3577	26 27 42.4	0.802	6	8 38 13.63	2.1503	23 16 33.6	6.847
7	6 51 59.72	2.3547	26 26 49.9	0.946	7	8 40 22.50	2.1452	23 9 39.6	6.952
8	6 54 20.91	2.3516	26 25 48.9	1.089	8	8 42 31.06	2.1402	23 2 39.3	7.056
9	6 56 41.91	2.3483	26 24 39.3	1.232	9	8 44 39.32	2.1352	22 55 32.9	7.158
10	6 59 2.71	2.3450	26 23 21.1	1.373	10	8 46 47.28	2.1301	22 48 20.4	7.260
11	7 1 23.31	2.3417	26 21 54.5	1.514	11	8 48 54.93	2.1250	22 41 1.7	7.362
12	7 3 43.71	2.3383	26 20 19.4	1.655	12	8 51 2.28	2.1199	22 33 37.0	7.462
13	7 6 3.91	2.3348	26 18 35.9	1.795	13	8 53 9.32	2.1148	22 26 6.3	7.561
14	7 8 23.89	2.3313	26 16 44.0	1.934	14	8 55 16.06	2.1097	22 18 29.7	7.658
15	7 10 43.66	2.3277	26 14 43.8	2.072	15	8 57 22.49	2.1047	22 10 47.3	7.755
16	7 13 3.21	2.3240	26 12 35.3	2.210	16	8 59 28.62	2.0997	22 2 59.1	7.852
17	7 15 22.54	2.3202	26 10 18.6	2.348	17	9 1 34.45	2.0946	21 55 5.1	7.947
18	7 17 41.64	2.3164	26 7 53.6	2.485	18	9 3 39.97	2.0896	21 47 5.4	8.042
19	7 20 0.51	2.3125	26 5 20.4	2.620	19	9 5 45.20	2.0846	21 39 0.1	8.135
20	7 22 19.14	2.3086	26 2 39.2	2.754	20	9 7 50.13	2.0796	21 30 49.2	8.227
21	7 24 37.54	2.3047	25 59 49.9	2.888	21	9 9 54.75	2.0745	21 22 32.8	8.319
22	7 26 55.70	2.3008	25 56 52.6	3.022	22	9 11 59.07	2.0695	21 14 10.9	8.410
23	7 29 13.61	2.2964	N. 25° 53' 47.3"	3.155	23	9 14 3.09	2.0645	N. 21° 5' 43.6"	8.499
24	7 31 31.27	2.2923				9 16 6.81	2.0596		
SATURDAY 26.					MONDAY 28.				
0	7 33 48.69	2.2882	N. 25° 50' 34.0"	3.287	0	9 18 10.24	2.0547	N. 20° 57' 11.0"	8.588
1	7 36 5.85	2.2839	25 47 12.8	3.418	1	9 20 13.37	2.0497	20 48 33.1	8.676
2	7 38 22.75	2.2796	25 43 43.8	3.548	2	9 22 16.20	2.0446	20 39 49.9	8.763
3	7 40 39.40	2.2752	25 40 7.0	3.678	3	9 24 18.74	2.0399	20 31 1.5	8.849
4	7 42 55.78	2.2707	25 36 22.5	3.807	4	9 26 20.99	2.0351	20 22 8.0	8.934
5	7 45 11.89	2.2663	25 32 30.2	3.935	5	9 28 22.95	2.0302	20 13 9.4	9.017
6	7 47 27.74	2.2619	25 28 30.3	4.062	6	9 30 24.61	2.0253	20 4 5.9	9.100
7	7 49 43.32	2.2573	25 24 22.8	4.188	7	9 32 25.98	2.0205	19 54 57.4	9.183
8	7 51 58.62	2.2527	25 20 7.8	4.313	8	9 34 27.07	2.0158	19 45 43.9	9.265
9	7 54 13.65	2.2482	25 15 45.3	4.438	9	9 36 27.88	2.0111	19 36 25.6	9.345
10	7 56 28.41	2.2436	25 11 15.3	4.562	10	9 38 28.40	2.0064	19 27 2.5	9.425
11	7 58 42.88	2.2389	25 6 37.9	4.684	11	9 40 28.64	2.0017	19 17 34.6	9.504
12	8 0 57.07	2.2341	25 1 53.2	4.806	12	9 42 28.60	1.9970	19 8 2.0	9.582
13	8 3 10.97	2.2294	24 57 1.2	4.927	13	9 44 28.28	1.9923	18 58 24.7	9.659
14	8 5 24.59	2.2247	24 52 1.9	5.047	14	9 46 27.68	1.9877	18 48 42.9	9.734
15	8 7 37.93	2.2199	24 46 55.5	5.166	15	9 48 26.81	1.9832	18 38 56.6	9.809
16	8 9 50.98	2.2150	24 41 42.0	5.284	16	9 50 25.67	1.9787	18 29 5.8	9.884
17	8 12 3.73	2.2101	24 36 21.4	5.402	17	9 52 24.25	1.9741	18 19 10.5	9.957
18	8 14 16.19	2.2052	24 30 53.7	5.520	18	9 54 22.56	1.9696	18 9 10.9	10.029
19	8 16 28.36	2.2003	24 25 19.0	5.635	19	9 56 20.60	1.9652	17 59 7.0	10.101
20	8 18 40.23	2.1954	24 19 37.5	5.749	20	9 58 18.38	1.9608	17 48 58.8	10.172
21	8 20 51.81	2.1905	24 13 49.1	5.863	21	10 0 15.90	1.9565	17 38 46.3	10.242
22	8 23 3.09	2.1855	24 7 53.9	5.977	22	10 2 13.16	1.9522	17 28 29.7	10.311
23	8 25 14.07	2.1805	24 1 51.9	6.089	23	10 4 10.16	1.9479	17 18 9.0	10.379
24	8 27 24.75	2.1755	N. 23° 55' 43.2"	6.200	24	10 6 6.90	1.9436	N. 17° 7' 44.3"	10.446

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 29.					THURSDAY, OCTOBER 1.				
0	^h 10 ^m 6 ^s 6.90	1.9436	N. 17° 7' 44.3"	10.446	0	^h 11 ^m 35 ^s 22.53	1.7949	N. 7° 44' 46.9"	12.704
1	10 8 3.39	1.9394	16 57 15.5	10.519					
2	10 9 59.63	1.9352	16 46 42.8	10.577					
3	10 11 55.61	1.9310	16 36 6.2	10.642					
4	10 13 51.35	1.9270	16 25 25.8	10.706					
5	10 15 46.85	1.9230	16 14 41.5	10.769					
6	10 17 42.11	1.9190	16 3 53.5	10.831					
7	10 19 37.13	1.9150	15 53 1.8	10.899					
8	10 21 31.91	1.9111	15 42 6.5	10.959					
9	10 23 26.46	1.9073	15 31 7.6	11.019					
10	10 25 20.78	1.9034	15 20 5.1	11.079					
11	10 27 14.87	1.8996	15 8 59.2	11.138					
12	10 29 8.73	1.8958	14 57 49.8	11.185					
13	10 31 2.37	1.8921	14 46 37.0	11.241					
14	10 32 55.79	1.8885	14 35 20.9	11.296					
15	10 34 48.99	1.8849	14 24 1.5	11.351					
16	10 36 41.98	1.8814	14 12 38.8	11.404					
17	10 38 34.76	1.8779	14 1 13.0	11.457					
18	10 40 27.33	1.8745	13 49 44.0	11.509					
19	10 42 19.70	1.8711	13 38 11.9	11.560					
20	10 44 11.86	1.8677	13 26 36.8	11.611					
21	10 46 3.82	1.8643	13 14 58.6	11.661					
22	10 47 55.58	1.8611	13 3 17.5	11.709					
23	10 49 47.15	1.8579	N. 12° 51' 33.5"	11.757					
WEDNESDAY 30.					PHASES OF THE MOON.				
0	10 51 38.53	1.8548	N. 12° 39' 46.6"	11.805	● New Moon . . . Sept. ^d 2 ^h 20 ^m 16.0				
1	10 53 29.72	1.8517	12 27 56.9	11.851	☾ First Quarter 10 23 7.5				
2	10 55 20.73	1.8486	12 16 4.5	11.896	○ Full Moon 17 17 3.8				
3	10 57 11.55	1.8455	12 4 9.4	11.941	☾ Last Quarter 24 11 7.2				
4	10 59 2.19	1.8426	11 52 11.6	11.986					
5	11 0 52.66	1.8397	11 40 11.1	12.029					
6	11 2 42.96	1.8369	11 28 8.1	12.071					
7	11 4 33.09	1.8341	11 16 2.6	12.113					
8	11 6 23.05	1.8313	11 3 54.6	12.154					
9	11 8 12.85	1.8286	10 51 44.1	12.195					
10	11 10 2.49	1.8260	10 39 31.2	12.234					
11	11 11 51.97	1.8234	10 27 16.0	12.273					
12	11 13 41.30	1.8209	10 14 58.6	12.309					
13	11 15 30.48	1.8184	10 2 38.9	12.346					
14	11 17 19.51	1.8160	9 50 17.0	12.383					
15	11 19 8.40	1.8137	9 37 52.9	12.419					
16	11 20 57.15	1.8114	9 25 26.7	12.453					
17	11 22 45.77	1.8093	9 12 58.5	12.487					
18	11 24 34.25	1.8069	9 0 28.2	12.521					
19	11 26 22.60	1.8048	8 47 56.0	12.553					
20	11 28 10.83	1.8027	8 35 21.9	12.585					
21	11 29 58.93	1.8007	8 22 45.8	12.617					
22	11 31 46.91	1.7987	8 10 7.9	12.648					
23	11 33 34.78	1.7968	7 57 28.3	12.675					
24	11 35 22.53	1.7949	N. 7° 44' 46.9"	12.704					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Arietis W.	101° 10' 14"	3103	102° 38' 20"	3110	104° 6' 18"	3115	105° 34' 9"	3122
	Aldebaran W.	70 48 20	3031	72 17 54	3036	73 47 22	3040	75 16 45	3045
	Pollux W.	26 37 12	3027	28 6 51	3030	29 36 27	3033	31 5 59	3036
	Sun E.	20 52 21	3509	19 32 7	3534	18 12 20	3564	16 53 6	3599
4	Sun W.	13 23 16	3745	14 39 16	3693	15 56 11	3654	17 13 47	3625
	Spica E.	28 49 16	3153	27 22 11	3163	25 55 17	3173	24 28 35	3185
	Antares E.	74 28 54	3086	73 0 27	3087	71 32 2	3088	70 3 38	3088
5	Sun W.	23 47 40	3546	25 7 13	3536	26 26 57	3527	27 46 51	3519
	Antares E.	62 41 44	3089	61 13 21	3089	59 44 58	3088	58 16 34	3087
	α Aquilæ E.	108 46 26	3981	107 34 28	3965	106 22 14	3951	105 9 46	3937
6	Sun W.	34 28 23	3485	35 49 4	3480	37 9 51	3473	38 30 45	3468
	Antares E.	50 54 14	3080	49 25 40	3078	47 57 4	3076	46 28 25	3073
	α Aquilæ E.	99 4 20	3884	97 50 44	3875	96 36 59	3867	95 23 6	3860
7	Sun W.	45 16 58	3435	46 38 35	3428	48 0 20	3421	49 22 13	3413
	Antares E.	39 4 17	3058	37 35 16	3054	36 6 10	3051	34 37 0	3047
	α Aquilæ E.	89 12 4	3833	87 57 36	3830	86 43 5	3826	85 28 30	3824
8	Sun W.	56 13 53	3371	57 36 43	3362	58 59 43	3353	60 22 54	3343
	Spica W.	19 44 9	3124	21 11 50	3100	22 40 0	3077	24 8 38	3056
	α Aquilæ E.	79 15 12	3821	78 0 82	3823	76 45 54	3826	75 31 19	3829
	Fomalhaut E.	109 43 23	3178	108 16 47	3167	106 49 58	3155	105 22 55	3143
9	Sun W.	67 21 50	3287	68 46 17	3275	70 10 58	3262	71 35 54	3249
	Spica W.	31 37 41	2969	33 8 33	2954	34 39 44	2938	36 11 15	2923
	α Aquilæ E.	69 19 34	3861	68 5 35	3871	66 51 46	3883	65 38 9	3896
	Fomalhaut E.	98 4 11	3085	96 35 43	3073	95 7 1	3061	93 38 4	3049
	α Pegasi E.	116 13 41	3405	114 51 30	3382	113 28 53	3359	112 5 50	3338
10	Sun W.	78 44 30	3179	80 11 4	3163	81 37 57	3148	83 5 8	3133
	Spica W.	43 53 39	2846	45 27 7	2831	47 0 55	2815	48 35 3	2799
	α Aquilæ E.	59 34 4	3993	58 22 18	4022	57 11 0	4052	56 0 12	4087
	Fomalhaut E.	86 9 29	2986	84 38 59	2973	83 8 13	2960	81 37 10	2947
	JUPITER E.	96 11 56	2774	94 36 54	2761	93 1 35	2747	91 25 57	2733
	α Pegasi E.	105 4 28	3235	103 39 0	3216	102 13 10	3197	100 46 57	3178
11	Sun W.	90 25 56	3049	91 55 8	3031	93 24 42	3014	94 54 38	2995
	Spica W.	56 31 3	2716	58 7 21	2699	59 44 2	2682	61 21 6	2664
	α Aquilæ E.	50 15 54	4331	49 9 30	4398	48 4 7	4475	46 59 53	4559
	Fomalhaut E.	73 57 49	2882	72 25 7	2869	70 52 8	2856	69 18 53	2844
	JUPITER E.	83 22 56	2657	81 45 18	2640	80 7 18	2624	78 28 56	2607
	α Pegasi E.	93 30 19	3088	92 1 55	3071	90 33 10	3055	89 4 5	3038
12	Sun W.	102 30 6	2901	104 2 24	2882	105 35 6	2862	107 8 13	2843
	Spica W.	69 32 27	2574	71 11 57	2556	72 51 53	2537	74 32 15	2519
	Antares W.	23 42 7	2809	25 20 50	2585	27 0 6	2561	28 39 54	2538
	Fomalhaut E.	61 28 41	2786	59 53 55	2775	58 18 55	2766	56 43 43	2757
	JUPITER E.	70 11 20	2522	68 30 37	2504	66 49 30	2487	65 7 58	2468
	α Pegasi E.	81 33 39	2992	80 2 38	2947	78 31 19	2924	76 59 43	2921

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Arietis	W.	107° 1' 52"	3127	108° 29' 29"	3133	109° 56' 58"	3139	111° 24' 20"	3146
	Aldebaran	W.	76 46 2	3048	78 15 15	3059	79 44 23	3056	81 13 26	3060
	Pollux	W.	32 35 27	3039	34 4 52	3042	35 34 13	3045	37 3 30	3047
	Sun	E.	15 34 31	3644	14 16 44	3702	12 59 59	3779	11 44 35	3884
4	Sun	W.	18 31 54	3604	19 50 24	3686	21 9 14	3571	22 28 20	3558
	Spica	E.	23 2 8	3198	21 35 57	3216	20 10 7	3236	18 44 41	3260
	Antares	E.	68 35 14	3089	67 6 51	3090	65 38 29	3090	64 10 7	3089
5	Sun	W.	29 6 54	3519	30 27 5	3505	31 47 24	3498	33 7 50	3492
	Antares	E.	56 48 9	3087	55 19 43	3085	53 51 15	3084	52 22 46	3082
	α Aquilæ	E.	103 57 4	3925	102 44 10	3914	101 31 4	3903	100 17 47	3893
6	Sun	W.	39 51 45	3469	41 12 52	3454	42 34 7	3448	43 55 29	3442
	Antares	E.	44 59 42	3070	43 30 56	3068	42 2 7	3065	40 33 14	3061
	α Aquilæ	E.	94 9 6	3854	92 54 59	3848	91 40 46	3842	90 26 27	3838
7	Sun	W.	50 44 15	3406	52 6 25	3397	53 28 45	3389	54 51 14	3380
	Antares	E.	33 7 45	3043	31 38 26	3039	30 9 2	3036	28 39 34	3033
	α Aquilæ	E.	84 13 53	3822	82 59 14	3821	81 44 34	3820	80 29 53	3820
8	Sun	W.	61 46 16	3332	63 9 51	3321	64 33 38	3311	65 57 37	3299
	Spica	W.	25 37 41	3037	27 7 8	3018	28 36 58	3001	30 7 9	2985
	α Aquilæ	E.	74 16 47	3834	73 2 20	3839	71 47 58	3845	70 33 42	3853
	Fomalhaut	E.	103 55 38	3133	102 28 8	3130	101 0 23	3109	99 32 24	3097
9	Sun	W.	73 1 5	3226	74 26 31	3222	75 52 14	3209	77 18 13	3193
	Spica	W.	37 43 5	2908	39 15 14	2892	40 47 43	2877	42 20 31	2862
	α Aquilæ	E.	64 24 45	3912	63 11 37	3928	61 58 46	3947	60 46 14	3969
	Fomalhaut	E.	92 8 52	3037	90 39 25	3024	89 9 42	3011	87 39 43	2999
	α Pegasi	E.	110 42 22	3317	109 18 30	3295	107 54 13	3275	106 29 32	3255
10	Sun	W.	84 32 37	3117	86 0 26	3100	87 28 36	3083	88 57 6	3067
	Spica	W.	50 9 32	2783	51 44 22	2766	53 19 34	2750	54 55 7	2733
	α Aquilæ	E.	54 49 58	4126	53 40 21	4168	52 31 25	4216	51 23 14	4270
	Fomalhaut	E.	80 5 51	2934	78 34 15	2991	77 2 23	2908	75 30 14	2895
	JUPITER	E.	89 50 1	2718	88 13 45	2703	86 37 9	2688	85 0 13	2672
	α Pegasi	E.	99 20 21	3159	97 53 23	3141	96 26 3	3124	94 58 22	3105
11	Sun	W.	96 24 57	2977	97 55 39	2958	99 26 44	2939	100 58 13	2920
	Spica	W.	62 58 34	2647	64 36 25	2629	66 14 41	2610	67 53 22	2593
	α Aquilæ	E.	45 56 53	4656	44 55 16	4763	43 55 9	4885	42 56 42	5022
	Fomalhaut	E.	67 45 22	2831	66 11 35	2819	64 37 32	2808	63 3 14	2796
	JUPITER	E.	76 50 11	2591	75 11 4	2574	73 31 33	2557	71 51 39	2539
	α Pegasi	E.	87 34 39	3022	86 4 53	3005	84 34 47	2990	83 4 22	2976
12	Sun	W.	108 41 45	2823	110 15 43	2804	111 50 6	2784	113 24 55	2764
	Spica	W.	76 13 2	2500	77 54 15	2481	79 35 55	2462	81 18 1	2443
	Antares	W.	30 20 14	2517	32 1 4	2494	33 42 25	2474	35 24 15	2453
	Fomalhaut	E.	55 8 19	2750	53 32 45	2744	51 57 3	2738	50 21 14	2735
	JUPITER	E.	63 26 0	2450	61 43 37	2433	60 0 49	2415	58 17 35	2398
	α Pegasi	E.	75 27 51	2909	73 55 44	2898	72 23 23	2887	70 50 48	2879

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
13	Sun W.	115° 0' 10"	2744	116° 35' 51"	2725	118° 11' 57"	2705	119° 48' 30"	2687
	Spica W.	83 0 34	2494	84 43 34	2406	86 27 0	2387	88 10 53	2369
	Antares W.	37 6 35	2432	38 49 24	2412	40 32 42	2391	42 16 29	2371
	Fomalhaut E.	48 45 20	2732	47 9 23	2733	45 33 27	2735	43 57 34	2740
	JUPITER E.	56 33 55	2378	54 49 49	2361	53 5 18	2343	51 20 21	2325
	α Pegasi E.	69 18 2	2870	67 45 5	2863	66 11 59	2857	64 38 45	2853
	α Arietis E.	111 0 49	2515	109 19 56	2494	107 38 34	2473	105 56 43	2453
14	Sun W.	127 57 37	2593	129 36 42	2574	131 16 12	2558	132 56 5	2540
	Spica W.	96 56 55	2279	98 43 26	2261	100 30 23	2244	102 17 45	2227
	Antares W.	51 2 29	2276	52 49 4	2258	54 36 6	2240	56 23 34	2222
	JUPITER E.	42 29 14	2240	40 41 47	2225	38 53 55	2208	37 5 40	2193
	α Pegasi E.	56 52 0	2860	55 18 50	2869	53 45 51	2881	52 13 8	2897
	α Arietis E.	97 20 27	2357	95 35 50	2338	93 50 46	2320	92 5 16	2303
15	Antares W.	65 27 19	2140	67 17 17	2125	69 7 38	2111	70 58 21	2097
	α Arietis E.	83 11 43	2225	81 23 53	2211	79 35 42	2198	77 47 11	2186
	Aldebaran E.	113 36 5	2161	111 46 39	2145	109 56 48	2130	108 6 34	2115
16	Antares W.	80 17 0	2036	82 9 38	2026	84 2 32	2016	85 55 41	2007
	α Aquilæ W.	43 59 51	2163	45 8 52	2153	46 20 19	2144	47 34 2	2135
	α Arietis E.	68 40 23	2136	66 50 19	2130	65 0 5	2123	63 9 41	2118
	Aldebaran E.	98 50 15	2054	96 58 5	2043	95 5 38	2033	93 12 56	2025
17	Antares W.	95 24 29	1975	97 18 43	1971	99 13 3	1967	101 7 29	1965
	α Aquilæ W.	54 10 50	2308	55 34 52	2294	57 0 9	2185	58 26 36	2173
	α Arietis E.	53 56 32	2115	52 5 55	2118	50 15 23	2123	48 24 59	2131
	Aldebaran E.	83 46 27	1993	81 52 42	1989	79 58 50	1986	78 4 54	1984
18	α Aquilæ W.	65 52 41	2246	67 24 2	2220	68 55 55	2209	70 28 15	2201
	Fomalhaut W.	31 11 41	2646	32 49 34	2632	34 28 54	2627	36 9 29	2622
	JUPITER W.	18 13 6	1992	20 6 53	1984	22 0 52	1979	23 55 0	1975
	Aldebaran E.	68 34 48	1987	66 40 53	1989	64 47 2	1994	62 53 18	1998
	Pollux E.	112 37 6	1960	110 42 29	1963	108 47 56	1966	106 53 28	1969
19	α Aquilæ W.	78 14 25	2835	79 48 8	2833	81 21 53	2834	82 55 37	2838
	Fomalhaut W.	44 45 18	2348	46 30 7	2335	48 15 15	2326	50 0 37	2319
	JUPITER W.	33 26 2	1986	35 19 59	1991	37 13 47	1999	39 7 23	2007
	Aldebaran E.	53 27 5	2039	51 34 31	2049	49 42 13	2061	47 50 14	2073
	Pollux E.	97 23 0	2000	95 29 26	2009	93 36 5	2018	91 42 59	2028
20	α Aquilæ W.	90 42 15	2886	92 14 52	2901	93 47 10	2919	95 19 5	2938
	Fomalhaut W.	58 48 51	2317	60 34 25	2322	62 19 52	2328	64 5 10	2337
	JUPITER W.	48 31 45	2061	50 23 45	2073	52 15 26	2086	54 6 46	2100
	α Pegasi W.	42 59 48	2007	44 29 52	2002	46 0 52	2004	47 32 41	2001
	Aldebaran E.	38 35 45	2154	36 46 8	2174	34 57 2	2196	33 8 29	2220
	Pollux E.	82 21 37	2088	80 30 17	2100	78 39 18	2114	76 48 40	2129
21	α Aquilæ W.	102 51 47	3064	104 20 41	3086	105 48 57	3128	107 16 33	3163
	Fomalhaut W.	72 48 18	2391	74 32 6	2405	76 15 34	2419	77 58 42	2433
	JUPITER W.	63 17 54	2176	65 6 57	2193	66 55 35	2210	68 43 48	2227
	α Pegasi W.	55 19 56	2601	56 54 22	2794	58 28 58	2789	60 3 40	2788

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
13	SUN	W.	121° 25' 28"	2667	123° 2' 52"	2648	124° 40' 42"	2629	126° 18' 57"	2611
	Spica	W.	89 55 12	2350	91 39 58	2339	93 25 11	2314	95 10 50	2296
	Antares	W.	44 0 45	2352	45 45 29	2333	47 30 41	2313	49 16 21	2294
	Fomalhaut	E.	42 21 47	2749	40 46 12	2761	39 10 53	2779	37 35 57	2801
	JUPITER	E.	49 34 58	2308	47 49 10	2290	46 2 56	2273	44 16 17	2257
	α Pegasi	E.	63 5 26	2651	61 32 4	2649	59 58 40	2651	58 25 18	2654
	α Arietis	E.	104 14 24	2433	102 31 37	2413	100 48 21	2394	99 4 38	2375
14	SUN	W.	134 36 22	2525	136 17 1	2508	137 58 3	2493	139 39 23	2477
	Spica	W.	104 5 32	2211	105 53 43	2194	107 42 19	2179	109 31 18	2163
	Antares	W.	58 11 29	2205	59 59 49	2188	61 48 35	2172	63 37 45	2156
	JUPITER	E.	35 17 2	2179	33 28 3	2165	31 38 43	2153	29 49 4	2141
	α Pegasi	E.	50 40 45	2216	49 8 47	2242	47 37 21	2271	46 6 32	3007
	α Arietis	E.	90 19 21	2226	88 33 1	2270	86 46 18	2255	84 59 12	2230
15	Antares	W.	72 49 25	2083	74 40 50	2070	76 32 35	2058	78 24 39	2047
	α Arietis	E.	75 58 22	2174	74 9 15	2163	72 19 52	2153	70 30 14	2145
	Aldebaran	E.	106 15 58	2101	104 25 1	2088	102 33 44	2076	100 42 8	2065
16	Antares	W.	87 49 4	2000	89 42 39	1992	91 36 26	1986	93 30 23	1980
	α Aquilæ	W.	48 49 49	2648	50 7 32	2549	51 27 2	2460	52 48 11	2380
	α Arietis	E.	61 19 10	2115	59 28 34	2113	57 37 54	2112	55 47 13	2112
	Aldebaran	E.	91 20 1	2017	89 26 53	2010	87 33 34	2003	85 40 5	1996
17	Antares	W.	103 1 58	1963	104 56 30	1963	106 51 3	1963	108 45 36	1964
	α Aquilæ	W.	59 54 6	2056	61 22 33	2044	62 51 51	2006	64 21 56	2074
	α Arietis	E.	46 34 47	2140	44 44 49	2153	42 55 10	2167	41 5 53	2184
	Aldebaran	E.	76 10 54	1982	74 16 52	1982	72 22 49	1982	70 28 47	1984
18	α Aquilæ	W.	72 0 58	2266	73 34 0	2254	75 7 18	2245	76 40 47	2238
	Fomalhaut	W.	37 51 8	2444	39 33 40	2412	41 16 58	2386	43 0 53	2365
	JUPITER	W.	25 49 13	1974	27 43 29	1974	29 37 44	1976	31 31 56	1980
	Aldebaran	E.	60 59 41	2005	59 6 14	2012	57 12 58	2020	55 19 55	2028
	Pollux	E.	104 59 5	1974	103 4 50	1979	101 10 43	1986	99 16 46	1993
19	α Aquilæ	W.	84 29 16	2243	86 2 48	2251	87 36 10	2260	89 9 20	2272
	Fomalhaut	W.	51 46 9	2314	53 31 48	2312	55 17 30	2312	57 3 12	2314
	JUPITER	W.	41 0 46	2016	42 53 55	2026	44 46 49	2037	46 39 26	2048
	Aldebaran	E.	45 58 34	2088	44 7 16	2103	42 16 21	2118	40 25 50	2136
	Pollux	E.	89 50 8	2038	87 57 33	2050	86 5 16	2061	84 13 17	2073
20	α Aquilæ	W.	96 50 36	2259	98 21 40	2283	99 52 14	2308	101 22 17	2334
	Fomalhaut	W.	65 50 16	2245	67 35 10	2255	69 19 49	2266	71 4 12	2278
	JUPITER	W.	55 57 45	2115	57 48 22	2130	59 38 36	2145	61 28 27	2161
	α Pegasi	W.	49 5 11	2265	50 38 15	2242	52 11 48	2225	53 45 43	2211
	Aldebaran	E.	31 20 32	2246	29 33 13	2274	27 46 36	2304	26 0 43	2332
	Pollux	E.	74 58 25	2144	73 8 33	2159	71 19 4	2175	69 29 59	2191
21	α Aquilæ	W.	108 43 26	2300	110 9 35	2340	111 34 57	2382	112 59 30	2395
	Fomalhaut	W.	79 41 29	2449	81 23 54	2465	83 5 56	2482	84 47 34	2499
	JUPITER	W.	70 31 35	2245	72 18 56	2262	74 5 52	2279	75 52 22	2298
	α Pegasi	W.	61 38 24	2788	63 13 8	2789	64 47 50	2793	66 22 27	2798

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
21	Pollux E.	67° 41' 18"	2208	65° 53' 2"	2225	64° 5' 12"	2242	62° 17' 47"	2260
	Regulus E.	103 58 35	2217	102 10 33	2235	100 22 57	2251	98 35 46	2269
	Sun E.	133 50 20	2232	132 9 51	2250	130 29 47	2267	128 50 7	2285
22	Fomalhaut W.	86 28 48	2517	88 9 37	2535	89 50 2	2553	91 30 1	2572
	JUPITER W.	77 38 25	2315	79 24 2	2334	81 9 12	2352	82 53 56	2371
	α Pegasi W.	67 56 57	2205	69 31 18	2213	71 5 29	2232	72 39 28	2252
	α Arietis W.	24 23 0	2218	25 54 56	2229	27 27 54	2239	29 1 40	2254
	Pollux E.	53 27 19	2350	51 42 33	2370	49 58 15	2389	48 14 24	2408
	Regulus E.	89 46 19	2358	88 1 44	2377	86 17 36	2396	84 33 55	2414
	Sun E.	120 37 55	2677	119 0 44	2686	117 23 59	2716	115 47 40	2735
23	Fomalhaut W.	99 43 25	2689	101 20 46	2690	102 57 39	2710	104 34 5	2732
	JUPITER W.	91 30 59	2462	93 13 6	2480	94 54 47	2498	96 36 3	2516
	α Pegasi W.	80 25 42	2297	81 58 5	2211	83 30 10	2227	85 1 55	2242
	α Arietis W.	36 56 56	2750	38 32 30	2750	40 8 4	2751	41 43 36	2755
	Pollux E.	39 41 52	2502	38 0 42	2521	36 19 58	2540	34 39 41	2560
	Regulus E.	76 2 3	2507	74 20 59	2525	72 40 20	2543	71 0 7	2562
	Sun E.	107 52 29	2832	106 18 43	2852	104 45 22	2871	103 12 26	2891
24	α Pegasi W.	92 35 27	3029	94 5 4	3047	95 34 18	3066	97 3 9	3085
	α Arietis W.	49 39 27	2792	51 14 6	2801	52 48 32	2811	54 22 45	2822
	Aldebaran W.	18 58 9	2878	20 30 56	2882	22 4 3	2882	23 37 24	2885
	Regulus E.	62 45 17	2851	61 7 31	2869	59 30 9	2886	57 53 10	2902
	Sun E.	95 33 49	2984	94 3 16	3001	92 33 5	3019	91 3 16	3037
25	α Arietis W.	62 10 20	2877	63 43 8	2889	65 15 41	2899	66 48 1	2911
	Aldebaran W.	31 24 51	2855	32 58 7	2862	34 31 15	2869	36 4 14	2877
	Regulus E.	49 53 46	2784	48 18 57	2800	46 44 29	2815	45 10 21	2831
	Sun E.	83 39 29	3120	82 11 44	3136	80 44 18	3151	79 17 10	3166
26	α Arietis W.	74 26 9	2965	75 57 6	2975	77 27 50	2985	78 58 22	2995
	Aldebaran W.	43 46 28	2920	45 18 22	2929	46 50 4	2938	48 21 35	2946
	Regulus E.	37 24 35	2905	35 52 23	2920	34 20 29	2935	32 48 54	2950
	Sun E.	72 5 51	3226	70 40 24	3248	69 15 12	3261	67 50 15	3273
27	α Arietis W.	86 27 59	3041	87 57 21	3050	89 26 32	3058	90 55 33	3068
	Aldebaran W.	55 56 33	2987	57 27 2	2994	58 57 22	3001	60 27 33	3008
	Sun E.	60 48 52	3228	59 25 13	3238	58 1 45	3247	56 38 28	3256
28	α Arietis W.	98 18 14	3104	99 46 19	3110	101 14 16	3117	102 42 5	3124
	Aldebaran W.	67 56 25	3039	69 25 49	3045	70 55 6	3050	72 24 17	3055
	Pollux W.	23 43 14	3034	25 12 45	3037	26 42 12	3040	28 11 35	3044
	Sun E.	49 44 33	3297	48 22 13	3405	47 0 2	3412	45 37 59	3418
29	Aldebaran W.	79 48 47	3076	81 17 26	3079	82 46 1	3089	84 14 32	3085
	Pollux W.	35 37 26	3060	37 6 25	3063	38 35 20	3065	40 4 12	3069
	Sun E.	38 49 31	3448	37 28 9	3454	36 6 54	3460	34 45 45	3465
30	Aldebaran W.	91 36 19	3097	93 4 32	3098	94 32 44	3100	96 0 54	3100
	Pollux W.	47 27 50	3077	48 56 28	3078	50 25 4	3079	51 53 39	3081
	Sun E.	28 1 29	3493	26 40 57	3498	25 20 31	3506	24 0 13	3513

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
21	Pollux E.	60 30 49	2278	58 44 17	2296	56 58 11	2314	55 12 32	2332
	Regulus E.	96 49 1	2287	95 2 42	2304	93 16 48	2322	91 31 20	2340
	Sun E.	127 10 51	2293	125 32 0	2301	123 53 33	2319	122 15 31	2338
22	Fomalhaut W.	93 9 35	2291	94 48 42	2310	96 27 23	2330	98 5 37	2349
	JUPITER W.	84 38 13	2289	86 22 4	2408	88 5 28	2426	89 48 26	2443
	α Pegasi W.	74 13 14	2244	75 46 45	2255	77 20 1	2269	78 53 0	2282
	α Arietis W.	30 36 3	2783	32 10 53	2768	33 46 3	2758	35 21 26	2753
	Pollux E.	46 31 0	2426	44 48 3	2445	43 5 33	2464	41 23 29	2483
	Regulus E.	82 50 40	2432	81 7 51	2451	79 25 29	2470	77 43 33	2488
	Sun E.	114 11 47	2754	112 36 19	2774	111 1 17	2793	109 26 40	2813
23	Fomalhaut W.	106 10 3	2753	107 45 33	2773	109 20 36	2795	110 55 11	2817
	JUPITER W.	98 16 54	2534	99 57 20	2551	101 37 22	2569	103 17 0	2586
	α Pegasi W.	86 33 20	2259	88 4 24	2276	89 35 7	2293	91 5 28	3011
	α Arietis W.	43 19 3	2760	44 54 23	2766	46 29 35	2773	48 4 36	2782
	Pollux E.	32 59 51	2579	31 20 27	2598	29 41 29	2617	28 2 57	2637
	Regulus E.	69 20 20	2580	67 40 58	2598	66 2 0	2615	64 23 26	2634
	Sun E.	101 39 55	2909	100 7 48	2928	98 36 5	2946	97 4 45	2965
24	α Pegasi W.	98 31 37	3105	99 59 41	3124	101 27 21	3144	102 54 37	3164
	α Arietis W.	55 56 44	2832	57 30 30	2844	59 4 1	2855	60 37 18	2866
	Aldebaran W.	25 10 53	2842	26 44 26	2843	28 17 58	2845	29 51 27	2849
	Regulus E.	56 16 33	2719	54 40 18	2736	53 4 26	2752	51 28 55	2769
	Sun E.	89 33 49	3054	88 4 43	3071	86 35 58	3087	85 7 38	3105
25	α Arietis W.	68 20 6	2221	69 51 52	2233	71 23 35	2243	72 54 59	2254
	Aldebaran W.	37 37 2	2285	39 9 40	2294	40 42 7	2299	42 14 23	2311
	Regulus E.	43 36 33	2246	42 3 5	2261	40 29 56	2276	38 57 6	2291
	Sun E.	77 50 20	3180	76 23 47	3195	74 57 32	3209	73 31 33	3223
26	α Arietis W.	80 28 41	3005	81 58 48	3014	83 28 43	3023	84 58 27	3033
	Aldebaran W.	49 52 56	2254	51 24 6	2263	52 55 5	2271	54 25 54	2279
	Regulus E.	31 17 32	2265	29 46 43	2281	28 16 6	2297	26 45 50	3014
	Sun E.	66 25 32	3284	65 1 2	3296	63 36 46	3307	62 12 43	3319
27	α Arietis W.	92 24 24	3074	93 53 5	3082	95 21 37	3089	96 50 0	3096
	Aldebaran W.	61 57 36	3015	63 27 30	3022	64 57 16	3028	66 26 54	3034
	Sun E.	55 15 21	3265	53 52 25	3273	52 29 38	3282	51 7 1	3290
28	α Arietis W.	104 9 46	3130	105 37 19	3138	107 4 45	3143	108 32 3	3148
	Aldebaran W.	73 53 22	3060	75 22 21	3064	76 51 15	3069	78 20 3	3072
	Pollux W.	29 40 53	3047	31 10 7	3051	32 39 17	3054	34 8 23	3056
	Sun E.	44 16 3	3424	42 54 14	3431	41 32 33	3438	40 10 59	3443
29	Aldebaran W.	85 43 0	3088	87 11 24	3091	88 39 45	3093	90 8 3	3095
	Pollux W.	41 33 0	3070	43 1 46	3073	44 30 29	3074	45 59 10	3075
	Sun E.	33 24 42	3470	32 3 44	3476	30 42 53	3481	29 22 8	3487
30	Aldebaran W.	97 29 2	3102	98 57 9	3103	100 25 15	3104	101 53 20	3105
	Pollux W.	53 22 12	3081	54 50 45	3082	56 19 17	3082	57 47 49	3082
	Sun E.	22 40 3	3521	21 20 2	3531	20 0 12	3542	18 40 34	3555

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Thur.	1	^h 12 ^m 29 ^s 24.00	9.058	S. 3° 10' 36.6	-58.28	16' 1.35	64.35	10 17.91	0.797
Frid.	2	12 33 1.55	9.071	3 33 54.5	58.20	16 1.62	64.39	10 36.86	0.784
Sat.	3	12 36 39.41	9.084	3 57 10.0	58.09	16 1.90	64.44	10 55.50	0.771
SUN.	4	12 40 17.59	9.098	4 20 22.8	-57.97	16 2.19	64.49	11 13 83	0.757
Mon.	5	12 43 56.11	9.113	4 43 32.5	57.83	16 2.47	64.54	11 31.81	0.742
Tues.	6	12 47 35.00	9.128	5 6 38.6	57.67	16 2.75	64.60	11 49.42	0.727
Wed.	7	12 51 14.27	9.144	5 29 40.9	-57.50	16 3.03	64.66	12 6.66	0.711
Thur.	8	12 54 53.93	9.161	5 52 38.9	57.31	16 3.32	64.72	12 23.51	0.694
Frid.	9	12 58 34.01	9.179	6 15 32.1	57.11	16 3.60	64.79	12 39.94	0.676
Sat.	10	13 2 14.52	9.197	6 38 20.2	-56.89	16 3.88	64.86	12 55.94	0.658
SUN.	11	13 5 55.48	9.216	7 1 2.9	56.66	16 4.16	64.93	13 11.49	0.639
Mon.	12	13 9 36.91	9.236	7 23 39.8	56.41	16 4.44	65.00	13 26.57	0.619
Tues.	13	13 13 18.84	9.257	7 46 10.5	-56.14	16 4.72	65.07	13 41.15	0.598
Wed.	14	13 17 1.27	9.279	8 8 34.6	55.86	16 5.00	65.15	13 55.23	0.576
Thur.	15	13 20 41.23	9.301	8 30 51.9	55.56	16 5.28	65.23	14 8.79	0.554
Frid.	16	13 24 27.74	9.325	8 53 1.9	-55.25	16 5.56	65.31	14 21.79	0.530
Sat.	17	13 28 11.83	9.349	9 15 4.2	54.93	16 5.83	65.40	14 34.23	0.506
SUN.	18	13 31 56.51	9.374	9 36 58.6	54.60	16 6.10	65.49	14 46.07	0.481
Mon.	19	13 35 41.81	9.400	9 58 44.6	-54.24	16 6.37	65.58	14 57.30	0.455
Tues.	20	13 39 27.73	9.427	10 20 21.8	53.87	16 6.64	65.67	15 7.90	0.428
Wed.	21	13 43 14.32	9.455	10 41 49.9	53.48	16 6.90	65.77	15 17.84	0.400
Thur.	22	13 47 1.59	9.483	11 3 8.6	-53.08	16 7.17	65.87	15 27.11	0.372
Frid.	23	13 50 49.54	9.513	11 24 17.6	52.66	16 7.43	65.97	15 35.69	0.343
Sat.	24	13 54 38.20	9.543	11 45 16.4	52.23	16 7.69	66.07	15 43.56	0.313
SUN.	25	13 58 27.59	9.573	12 6 4.5	-51.78	16 7.95	66.17	15 50.71	0.283
Mon.	26	14 2 17.71	9.604	12 26 41.7	51.31	16 8.21	66.27	15 57.13	0.252
Tues.	27	14 6 8.59	9.636	12 47 7.5	50.83	16 8.46	66.38	16 2.79	0.220
Wed.	28	14 10 0.23	9.668	13 7 21.5	-50.32	16 8.71	66.49	16 7.69	0.188
Thur.	29	14 13 52.64	9.700	13 27 23.2	49.80	16 8.96	66.60	16 11.82	0.156
Frid.	30	14 17 45.83	9.733	13 47 12.3	49.26	16 9.21	66.71	16 15.17	0.123
Sat.	31	14 21 39.81	9.766	14 6 48.3	48.71	16 9.46	66.82	16 17.74	0.090
SUN.	32	14 25 34.58	9.799	S. 14 26 10.8	-48.14	16 9.71	66.93	16 19.52	0.057

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Thur.	1	^h 12 ^m 29 ^s 25.56	9.060	S. [°] 3 ['] 10 ["] 46.6	-58.30	^m 10 ^s 18.04	0.797	^h 12 ^m 39 ^s 43.60
Frid.	2	12 33 3.16	9.073	3 34 4.8	58.21	10 37.00	0.784	12 43 40.16
Sat.	3	12 36 41.07	9.086	3 57 20.6	58.10	10 55.64	0.771	12 47 36.71
SUN.	4	12 40 19.30	9.100	4 20 33.7	-57.98	11 13.97	0.757	12 51 33.27
Mon.	5	12 43 57.87	9.115	4 43 43.6	57.84	11 31.95	0.742	12 55 29.82
Tues.	6	12 47 36.81	9.130	5 6 50.0	57.68	11 49.56	0.727	12 59 26.37
Wed.	7	12 51 16.12	9.146	5 29 52.5	-57.51	12 6.80	0.711	13 3 22.92
Thur.	8	12 54 55.83	9.163	5 52 50.7	57.32	12 23.65	0.694	13 7 19.48
Frid.	9	12 58 35.95	9.181	6 15 44.1	57.12	12 40.08	0.676	13 11 16.03
Sat.	10	13 2 16.51	9.199	6 38 32.4	-56.90	12 56.08	0.658	13 15 12.59
SUN.	11	13 5 57.51	9.218	7 1 15.3	56.67	13 11.63	0.639	13 19 9.14
Mon.	12	13 9 38.99	9.238	7 23 52.4	56.42	13 26.71	0.619	13 23 5.70
Tues.	13	13 13 20.96	9.259	7 46 23.3	-56.15	13 41.29	0.598	13 27 2.25
Wed.	14	13 17 3.43	9.281	8 8 47.5	55.87	13 55.37	0.576	13 30 58.80
Thur.	15	13 20 46.43	9.303	8 31 4.9	55.57	14 8.92	0.554	13 34 55.35
Frid.	16	13 24 29.98	9.327	8 53 15.0	-55.26	14 21.92	0.530	13 38 51.90
Sat.	17	13 28 14.11	9.351	9 15 17.4	54.94	14 34.35	0.506	13 42 48.46
SUN.	18	13 31 58.83	9.376	9 37 11.9	54.60	14 46.19	0.481	13 46 45.02
Mon.	19	13 35 44.16	9.402	9 58 58.0	-54.24	14 57.41	0.455	13 50 41.57
Tues.	20	13 39 30.12	9.429	10 20 35.3	53.87	15 8.01	0.428	13 54 38.13
Wed.	21	13 43 16.74	9.457	10 42 3.5	53.48	15 17.94	0.400	13 58 34.68
Thur.	22	13 47 4.04	9.485	11 3 22.3	-53.08	15 27.20	0.372	14 2 31.24
Frid.	23	13 50 52.02	9.514	11 24 31.3	52.66	15 35.77	0.343	14 6 27.79
Sat.	24	13 54 40.71	9.544	11 45 30.1	52.23	15 43.64	0.313	14 10 24.35
SUN.	25	13 58 30.12	9.574	12 6 18.2	-51.78	15 50.78	0.283	14 14 20.90
Mon.	26	14 2 20.27	9.605	12 26 55.3	51.31	15 57.19	0.252	14 18 17.46
Tues.	27	14 6 11.17	9.637	12 47 21.1	50.83	16 2.85	0.220	14 22 14.01
Wed.	28	14 10 2.83	9.669	13 7 35.0	-50.32	16 7.74	0.188	14 26 10.57
Thur.	29	14 13 55.26	9.701	13 27 36.6	49.80	16 11.86	0.156	14 30 7.12
Frid.	30	14 17 48.47	9.734	13 47 25.6	49.26	16 15.20	0.123	14 34 3.67
Sat.	31	14 21 42.47	9.767	14 7 1.5	48.71	16 17.76	0.090	14 38 0.23
SUN.	32	14 25 37.26	9.800	S. 14 26 23.9	-48.14	16 19.53	0.057	14 41 56.79

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 hour,
+9^m.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	274	188° 0' 59.1	0 36.4	147.68	+ 0.46	0.0002928	-51.7	^h 11 ^m 18 ^s 24.96
2	275	188 60 4.7	59 41.9	147.77	0.40	0.0001684	52.0	11 14 29.05
3	276	189 59 12.4	58 49.5	147.86	0.31	0.0000433	52.3	11 10 33.14
4	277	190 58 22.1	57 59.1	147.95	+ 0.20	9.9999175	-52.6	11 6 37.23
5	278	191 57 33.7	57 10.6	148.03	+ 0.07	9.9997911	52.8	11 2 41.33
6	279	192 56 47.3	56 24.1	148.10	- 0.06	9.9996643	53.0	10 58 45.42
7	280	193 56 2.8	55 39.5	148.18	- 0.20	9.9995371	-53.1	10 54 49.51
8	281	194 55 20.1	54 56.6	148.25	0.33	9.9994096	53.2	10 50 53.60
9	282	195 54 39.1	54 15.5	148.33	0.44	9.9992819	53.3	10 46 57.69
10	283	196 53 59.8	53 36.1	148.40	- 0.53	9.9991540	-53.2	10 43 1.79
11	284	197 53 22.3	52 58.5	148.47	0.60	9.9990264	53.1	10 39 5.88
12	285	198 52 46.6	52 22.7	148.54	0.65	9.9988992	52.9	10 35 9.97
13	286	199 52 12.7	51 48.7	148.62	- 0.66	9.9987726	-52.6	10 31 14.06
14	287	200 51 40.6	51 16.5	148.69	0.64	9.9986467	52.3	10 27 18.16
15	288	201 51 10.3	50 46.1	148.77	0.59	9.9985215	52.0	10 23 22.25
16	289	202 50 41.9	50 17.6	148.85	- 0.52	9.9983971	-51.6	10 19 26.34
17	290	203 50 15.5	49 51.0	148.93	0.42	9.9982737	51.2	10 15 30.43
18	291	204 49 51.0	49 26.4	149.01	0.30	9.9981514	50.7	10 11 34.53
19	292	205 49 28.5	49 3.8	149.10	- 0.17	9.9980303	-50.2	10 7 38.62
20	293	206 49 8.1	48 43.3	149.19	- 0.04	9.9979103	49.8	10 3 42.71
21	294	207 48 50.0	48 25.0	149.28	+ 0.09	9.9977912	49.4	9 59 46.80
22	295	208 48 34.1	48 9.0	149.37	+ 0.21	9.9976732	-49.0	9 55 50.88
23	296	209 48 20.4	47 55.2	149.47	0.32	9.9975562	48.7	9 51 54.97
24	297	210 48 8.9	47 43.6	149.56	0.40	9.9974401	48.3	9 47 59.06
25	298	211 47 59.7	47 34.3	149.66	+ 0.46	9.9973248	-47.9	9 44 3.15
26	299	212 47 52.7	47 27.2	149.75	0.49	9.9972102	47.6	9 40 7.25
27	300	213 47 47.8	47 22.2	149.84	0.49	9.9970961	47.4	9 36 11.34
28	301	214 47 45.1	47 19.3	149.93	+ 0.46	9.9969825	-47.2	9 32 15.43
29	302	215 47 44.6	47 18.7	150.02	0.40	9.9968694	47.0	9 28 19.52
30	303	216 47 46.2	47 20.2	150.11	0.31	9.9967568	46.8	9 24 23.61
31	304	217 47 49.9	47 23.7	150.19	0.20	9.9966446	46.7	9 20 27.70
32	305	218 47 55.5	47 29.1	150.27	+ 0.08	9.9965327	-46.5	9 16 31.79
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^d .0.								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	14 43.6	14 43.5	53 56.1	-0.10	53 55.7	+0.03	23 33.7	1.65	28.2
2	14 43.7	14 44.4	53 56.6	+0.14	53 58.9	0.25	6		29.2
3	14 45.3	14 46.6	54 2.4	0.35	54 7.2	0.46	0 13.2	1.66	0.5
4	14 48.3	14 50.3	54 13.3	+0.57	54 20.7	+0.67	0 53.4	1.71	1.5
5	14 52.7	14 55.4	54 29.4	0.79	54 39.5	0.90	1 35.2	1.79	2.5
6	14 58.6	15 2.1	54 51.0	1.02	55 3.9	1.15	2 19.3	1.90	3.5
7	15 6.0	15 10.4	55 18.4	+1.27	55 34.4	+1.40	3 6.6	2.04	4.5
8	15 15.2	15 20.4	55 52.0	1.53	56 11.2	1.66	3 57.5	2.19	5.5
9	15 26.0	15 32.0	56 31.8	1.78	56 53.9	1.90	4 51.8	2.31	6.5
10	15 38.4	15 45.0	57 17.2	+2.00	57 41.7	+2.08	5 48.6	2.39	7.5
11	15 51.9	15 58.9	58 6.9	2.12	58 32.5	2.14	6 46.5	2.40	8.5
12	16 5.8	16 12.7	58 58.1	2.12	59 23.3	2.06	7 44.0	2.36	9.5
13	16 19.2	16 25.3	59 47.3	+1.94	60 9.6	+1.77	8 39.9	2.29	10.5
14	16 30.7	16 35.4	60 29.6	1.55	60 46.6	1.27	9 34.1	2.23	11.5
15	16 39.0	16 41.5	60 59.9	0.94	61 9.1	+0.59	10 26.8	2.19	12.5
16	16 42.8	16 42.7	61 13.8	+0.19	61 13.6	-0.22	11 19.1	2.19	13.5
17	16 41.4	16 38.7	61 8.6	-0.62	60 58.8	1.01	12 11.9	2.23	14.5
18	16 34.8	16 29.8	60 44.5	1.36	60 26.2	1.68	13 6.1	2.29	15.5
19	16 23.9	16 17.1	60 4.3	-1.95	59 39.6	-2.15	14 2.1	2.37	16.5
20	16 9.8	16 2.2	59 12.8	2.30	58 44.6	2.39	14 59.7	2.41	17.5
21	15 54.3	15 46.3	58 15.6	2.42	57 46.5	2.40	15 57.8	2.40	18.5
22	15 38.6	15 31.1	57 18.0	-2.34	56 50.4	-2.24	16 54.8	2.32	19.5
23	15 24.0	15 17.3	56 24.3	2.11	55 59.9	1.96	17 49.2	2.19	20.5
24	15 11.2	15 5.7	55 37.5	1.78	55 17.3	1.59	18 40.0	2.04	21.5
25	15 0.9	14 56.7	54 59.5	-1.39	54 44.1	-1.19	19 27.3	1.90	22.5
26	14 53.1	14 50.3	54 31.0	0.99	54 20.5	0.79	20 11.2	1.78	23.5
27	14 48.1	14 46.4	54 12.2	0.60	54 6.2	0.41	20 52.8	1.70	24.5
28	14 45.3	14 44.9	54 2.4	-0.24	54 0.7	-0.07	21 32.8	1.66	25.5
29	14 44.9	14 45.4	54 0.9	+0.09	54 2.8	+0.23	22 12.3	1.66	26.5
30	14 46.4	14 47.8	54 6.3	0.36	54 11.4	0.48	22 52.3	1.69	27.5
31	14 49.5	14 51.6	54 17.7	0.58	54 25.3	0.68	23 33.6	1.77	28.5
32	14 53.9	14 56.5	54 33.9	+0.77	54 43.6	+0.85	6		29.5

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 1.					SATURDAY 3.				
0	11 ^h 35 ^m 22.53 ^s	1.7949	N. 7° 44' 46.9"	12.704	0	13 ^h 0 ^m 29.70 ^s	1.7743	S. 2° 44' 10.2"	13.222
1	11 37 10.17	1.7931	7 32 3.8	12.732	1	13 2 16.19	1.7754	2 57 23.3	13.214
2	11 38 57.71	1.7914	7 19 19.1	12.759	2	13 4 2.75	1.7765	3 10 35.9	13.206
3	11 40 45.14	1.7897	7 6 32.7	12.786	3	13 5 49.37	1.7776	3 23 48.0	13.197
4	11 42 32.47	1.7881	6 53 44.7	12.812	4	13 7 36.06	1.7788	3 36 59.6	13.187
5	11 44 19.71	1.7866	6 40 55.2	12.837	5	13 9 22.83	1.7801	3 50 10.5	13.177
6	11 46 6.86	1.7851	6 28 4.3	12.861	6	13 11 9.67	1.7814	4 3 20.8	13.167
7	11 47 53.92	1.7836	6 15 11.9	12.885	7	13 12 56.60	1.7828	4 16 30.5	13.155
8	11 49 40.89	1.7821	6 2 18.1	12.907	8	13 14 43.61	1.7842	4 29 39.4	13.142
9	11 51 27.77	1.7808	5 49 23.0	12.929	9	13 16 30.71	1.7857	4 42 47.5	13.128
10	11 53 14.58	1.7796	5 36 26.6	12.951	10	13 18 17.90	1.7873	4 55 54.8	13.114
11	11 55 1.32	1.7783	5 23 28.9	12.972	11	13 20 5.19	1.7889	5 9 1.2	13.099
12	11 56 47.98	1.7771	5 10 30.0	12.991	12	13 21 52.58	1.7907	5 22 6.7	13.084
13	11 58 34.57	1.7760	4 57 30.0	13.010	13	13 23 40.07	1.7924	5 35 11.3	13.067
14	12 0 21.10	1.7750	4 44 28.8	13.029	14	13 25 27.67	1.7942	5 48 14.8	13.050
15	12 2 7.57	1.7740	4 31 26.5	13.047	15	13 27 15.37	1.7960	6 1 17.3	13.032
16	12 3 53.98	1.7730	4 18 23.2	13.064	16	13 29 3.19	1.7980	6 14 18.7	13.014
17	12 5 40.33	1.7721	4 5 18.9	13.080	17	13 30 51.13	1.8000	6 27 19.0	12.995
18	12 7 26.63	1.7713	3 52 13.6	13.096	18	13 32 39.19	1.8020	6 40 18.1	12.974
19	12 9 12.89	1.7706	3 39 7.4	13.110	19	13 34 27.37	1.8041	6 53 15.9	12.953
20	12 10 59.10	1.7699	3 26 0.4	13.123	20	13 36 15.68	1.8063	7 6 12.5	12.931
21	12 12 45.27	1.7693	3 12 52.6	13.137	21	13 38 4.13	1.8086	7 19 7.7	12.908
22	12 14 31.41	1.7687	2 59 44.0	13.150	22	13 39 52.71	1.8109	7 32 1.5	12.885
23	12 16 17.51	1.7681	N. 2 46 34.6	13.162	23	13 41 41.43	1.8132	S. 7 44 53.9	12.862
FRIDAY 2.					SUNDAY 4.				
0	12 18 3.58	1.7676	N. 2 33 24.5	13.173	0	13 43 30.29	1.8155	S. 7 57 44.9	12.837
1	12 19 49.63	1.7672	2 20 13.8	13.183	1	13 45 19.29	1.8180	8 10 34.3	12.810
2	12 21 35.65	1.7668	2 7 2.5	13.193	2	13 47 8.45	1.8206	8 23 22.1	12.783
3	12 23 21.65	1.7666	1 53 50.6	13.202	3	13 48 57.76	1.8232	8 36 8.3	12.756
4	12 25 7.64	1.7664	1 40 38.2	13.210	4	13 50 47.23	1.8258	8 48 52.8	12.728
5	12 26 53.62	1.7662	1 27 25.4	13.218	5	13 52 36.86	1.8284	9 1 35.6	12.699
6	12 28 39.59	1.7661	1 14 12.1	13.225	6	13 54 26.64	1.8311	9 14 16.7	12.669
7	12 30 25.55	1.7660	1 0 58.4	13.231	7	13 56 16.59	1.8340	9 26 55.9	12.638
8	12 32 11.51	1.7661	0 47 44.4	13.236	8	13 58 6.72	1.8369	9 39 33.2	12.606
9	12 33 57.48	1.7662	0 34 30.1	13.241	9	13 59 57.02	1.8398	9 52 8.6	12.574
10	12 35 43.45	1.7663	0 21 15.5	13.245	10	14 1 47.49	1.8428	10 4 42.1	12.541
11	12 37 29.43	1.7665	N. 0 8 0.7	13.248	11	14 3 38.15	1.8458	10 17 13.5	12.506
12	12 39 15.43	1.7668	S. 0 5 14.2	13.250	12	14 5 28.99	1.8489	10 29 42.8	12.471
13	12 41 1.45	1.7671	0 18 29.3	13.252	13	14 7 20.02	1.8521	10 42 10.0	12.436
14	12 42 47.48	1.7674	0 31 44.4	13.253	14	14 9 11.24	1.8553	10 54 35.1	12.399
15	12 44 33.53	1.7678	0 44 59.6	13.253	15	14 11 2.65	1.8585	11 6 57.9	12.361
16	12 46 19.61	1.7683	0 58 14.7	13.252	16	14 12 54.26	1.8618	11 19 18.4	12.322
17	12 48 5.73	1.7689	1 11 29.8	13.251	17	14 14 46.07	1.8652	11 31 36.6	12.283
18	12 49 51.88	1.7695	1 24 44.8	13.248	18	14 16 38.09	1.8687	11 43 52.4	12.243
19	12 51 38.07	1.7701	1 37 59.6	13.245	19	14 18 30.31	1.8722	11 56 5.8	12.202
20	12 53 24.30	1.7708	1 51 14.2	13.242	20	14 20 22.75	1.8757	12 8 16.7	12.161
21	12 55 10.57	1.7716	2 4 28.7	13.239	21	14 22 15.40	1.8793	12 20 25.1	12.118
22	12 56 56.89	1.7725	2 17 42.9	13.234	22	14 24 8.27	1.8830	12 32 30.9	12.074
23	12 58 43.27	1.7734	2 30 56.7	13.228	23	14 26 1.36	1.8867	12 44 34.0	12.029
24	13 0 29.70	1.7743	S. 2 44 10.2	13.222	24	14 27 54.67	1.8904	S. 12 56 34.4	11.983

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 5.					WEDNESDAY 7.				
0	14 27 54.67	1.8904	S. 12° 56' 34.4"	11.983	0	16 3 53.69	2.1240	S. 21° 21' 22.6"	8.664
1	14 29 48.21	1.8942	13 8 32.0	11.937	1	16 6 1.30	2.1296	21 29 59.6	8.569
2	14 31 41.98	1.8981	13 20 26.9	11.891	2	16 8 9.24	2.1352	21 38 30.9	8.473
3	14 33 35.98	1.9020	13 32 18.9	11.843	3	16 10 17.52	2.1408	21 46 56.4	8.376
4	14 35 30.22	1.9060	13 44 8.0	11.793	4	16 12 26.14	2.1465	21 55 16.0	8.278
5	14 37 24.70	1.9101	13 55 54.1	11.743	5	16 14 35.10	2.1522	22 3 29.8	8.180
6	14 39 19.43	1.9142	14 7 37.2	11.692	6	16 16 44.40	2.1578	22 11 37.6	8.079
7	14 41 14.40	1.9183	14 19 17.2	11.640	7	16 18 54.04	2.1635	22 19 39.3	7.978
8	14 43 9.62	1.9225	14 30 54.0	11.588	8	16 21 4.02	2.1692	22 27 35.0	7.877
9	14 45 5.10	1.9267	14 42 27.7	11.535	9	16 23 14.35	2.1750	22 35 24.5	7.773
10	14 47 0.83	1.9310	14 53 58.2	11.480	10	16 25 25.02	2.1807	22 43 7.7	7.668
11	14 48 56.82	1.9353	15 5 25.3	11.424	11	16 27 36.03	2.1863	22 50 44.7	7.563
12	14 50 53.06	1.9396	15 16 49.0	11.367	12	16 29 47.38	2.1920	22 58 15.3	7.456
13	14 52 49.57	1.9441	15 28 9.3	11.310	13	16 31 59.07	2.1977	23 5 39.4	7.348
14	14 54 46.35	1.9486	15 39 26.2	11.252	14	16 34 11.10	2.2034	23 12 57.1	7.240
15	14 56 43.40	1.9531	15 50 39.5	11.192	15	16 36 23.48	2.2091	23 20 8.2	7.139
16	14 58 40.72	1.9577	16 1 49.2	11.139	16	16 38 36.20	2.2148	23 27 12.6	7.018
17	15 0 38.32	1.9623	16 12 55.3	11.070	17	16 40 49.26	2.2204	23 34 10.4	6.907
18	15 2 36.20	1.9670	16 23 57.6	11.007	18	16 43 2.65	2.2260	23 41 1.5	6.795
19	15 4 34.36	1.9717	16 34 56.1	10.944	19	16 45 16.38	2.2317	23 47 45.8	6.680
20	15 6 32.80	1.9764	16 45 50.9	10.881	20	16 47 30.45	2.2373	23 54 23.1	6.564
21	15 8 31.53	1.9812	16 56 41.8	10.816	21	16 49 44.86	2.2429	24 0 53.4	6.447
22	15 10 30.55	1.9861	17 7 28.8	10.749	22	16 51 59.60	2.2485	24 7 16.7	6.330
23	15 12 29.86	1.9909	S. 17 18 11.7	10.681	23	16 54 14.68	2.2541	S. 24 13 33.0	6.212
TUESDAY 6.					THURSDAY 8.				
0	15 14 29.46	1.9958	S. 17 28 50.5	10.613	0	16 56 30.09	2.2596	S. 24 19 42.1	6.092
1	15 16 29.36	2.0008	17 39 25.2	10.544	1	16 58 45.83	2.2651	24 25 44.0	5.971
2	15 18 29.56	2.0058	17 49 55.8	10.474	2	17 1 1.90	2.2706	24 31 38.6	5.849
3	15 20 30.06	2.0108	18 0 22.1	10.402	3	17 3 18.30	2.2760	24 37 25.9	5.727
4	15 22 30.86	2.0159	18 10 44.1	10.330	4	17 5 35.02	2.2814	24 43 5.8	5.603
5	15 24 31.97	2.0211	18 21 1.7	10.256	5	17 7 52.07	2.2868	24 48 38.2	5.478
6	15 26 33.39	2.0262	18 31 14.8	10.182	6	17 10 9.44	2.2922	24 54 3.1	5.352
7	15 28 35.12	2.0314	18 41 23.5	10.107	7	17 12 27.13	2.2975	24 59 20.4	5.225
8	15 30 37.16	2.0366	18 51 27.6	10.030	8	17 14 45.14	2.3028	25 4 30.1	5.097
9	15 32 39.51	2.0418	19 1 27.1	9.952	9	17 17 3.46	2.3080	25 9 32.0	4.967
10	15 34 42.18	2.0471	19 11 21.9	9.874	10	17 19 22.10	2.3132	25 14 26.1	4.837
11	15 36 45.17	2.0524	19 21 12.0	9.795	11	17 21 41.04	2.3183	25 19 12.5	4.707
12	15 38 48.47	2.0577	19 30 57.3	9.714	12	17 24 0.29	2.3233	25 23 51.0	4.575
13	15 40 52.09	2.0631	19 40 37.7	9.632	13	17 26 19.84	2.3284	25 28 21.5	4.442
14	15 42 56.04	2.0686	19 50 13.2	9.550	14	17 28 39.70	2.3335	25 32 44.0	4.307
15	15 45 0.32	2.0741	19 59 43.7	9.466	15	17 30 59.86	2.3384	25 36 58.4	4.172
16	15 47 4.93	2.0795	20 9 9.1	9.381	16	17 33 20.31	2.3433	25 41 4.7	4.037
17	15 49 9.86	2.0849	20 18 29.4	9.295	17	17 35 41.06	2.3482	25 45 2.8	3.900
18	15 51 15.12	2.0904	20 27 44.5	9.207	18	17 38 2.10	2.3531	25 48 52.7	3.762
19	15 53 20.71	2.0960	20 36 54.3	9.119	19	17 40 23.43	2.3578	25 52 34.3	3.623
20	15 55 26.64	2.1016	20 45 58.8	9.031	20	17 42 45.03	2.3624	25 56 7.5	3.483
21	15 57 32.90	2.1071	20 54 58.0	8.941	21	17 45 6.91	2.3670	25 59 32.3	3.343
22	15 59 39.49	2.1127	21 3 51.7	8.849	22	17 47 29.07	2.3715	26 2 48.6	3.202
23	16 1 46.42	2.1183	21 12 39.9	8.757	23	17 49 51.49	2.3759	26 5 56.5	3.060
24	16 3 53.69	2.1240	S. 21 21 22.6	8.664	24	17 52 14.18	2.3803	S. 26 8 55.8	2.916

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 9.					SUNDAY 11.				
0	^h 17 ^m 52 ^s 14.18	2.3803	S. 26° 8' 55.8"	2.916	0	^h 19 ^m 49 ^s 56.82	2.4879	S. 25° 31' 15.8"	4.446
1	17 54 37.13	2.3847	26 11 46.4	2.772	1	19 52 26.05	2.4871	25 26 32.1	4.809
2	17 57 0.34	2.3890	26 14 28.4	2.627	2	19 54 55.27	2.4868	25 21 38.7	4.971
3	17 59 23.81	2.3939	26 17 1.7	2.489	3	19 57 24.47	2.4865	25 16 35.6	5.134
4	18 1 47.53	2.3973	26 19 26.2	2.335	4	19 59 53.65	2.4860	25 11 22.7	5.297
5	18 4 11.49	2.4013	26 21 41.9	2.187	5	20 2 22.79	2.4854	25 6 0.0	5.459
6	18 6 35.69	2.4053	26 23 48.7	2.039	6	20 4 51.89	2.4847	25 0 27.6	5.621
7	18 9 0.13	2.4092	26 25 46.6	1.890	7	20 7 20.95	2.4840	24 54 45.5	5.782
8	18 11 24.79	2.4129	26 27 35.5	1.740	8	20 9 49.97	2.4839	24 48 53.7	5.944
9	18 13 49.68	2.4166	26 29 15.4	1.589	9	20 12 18.94	2.4833	24 42 52.2	6.105
10	18 16 14.79	2.4203	26 30 46.2	1.438	10	20 14 47.85	2.4813	24 36 41.1	6.266
11	18 18 40.12	2.4239	26 32 8.0	1.287	11	20 17 16.70	2.4809	24 30 20.3	6.427
12	18 21 5.66	2.4278	26 33 20.7	1.135	12	20 19 45.48	2.4791	24 23 49.9	6.586
13	18 23 31.40	2.4307	26 34 24.2	0.981	13	20 22 14.19	2.4779	24 17 10.0	6.745
14	18 25 57.35	2.4341	26 35 18.4	0.827	14	20 24 42.82	2.4766	24 10 20.5	6.904
15	18 28 23.49	2.4379	26 36 3.4	0.679	15	20 27 11.38	2.4752	24 3 21.5	7.063
16	18 30 49.82	2.4403	26 36 39.1	0.517	16	20 29 39.85	2.4737	23 56 13.0	7.221
17	18 33 16.33	2.4433	26 37 5.5	0.362	17	20 32 8.22	2.4731	23 48 55.0	7.378
18	18 35 43.01	2.4462	26 37 22.5	0.205	18	20 34 36.50	2.4705	23 41 27.6	7.535
19	18 38 9.87	2.4491	26 37 30.1	- 0.048	19	20 37 4.68	2.4688	23 33 50.8	7.691
20	18 40 36.90	2.4517	26 37 28.3	+ 0.109	20	20 39 32.76	2.4671	23 26 4.7	7.847
21	18 43 4.08	2.4543	26 37 17.0	0.267	21	20 42 0.73	2.4652	23 18 9.2	8.003
22	18 45 31.42	2.4569	26 36 56.2	0.426	22	20 44 28.59	2.4633	23 10 4.4	8.156
23	18 47 58.91	2.4594	S. 26° 36' 25.9"	0.585	23	20 46 56.33	2.4614	S. 23° 1' 50.4"	8.309
SATURDAY 10.					MONDAY 12.				
0	18 50 26.55	2.4618	S. 26° 35' 46.0"	0.744	0	20 49 23.96	2.4595	S. 22° 53' 27.3"	8.462
1	18 52 54.33	2.4640	26 34 56.6	0.903	1	20 51 51.47	2.4574	22 44 55.0	8.615
2	18 55 22.23	2.4660	26 33 57.6	1.064	2	20 54 18.85	2.4552	22 36 13.5	8.767
3	18 57 50.25	2.4680	26 32 48.9	1.225	3	20 56 46.09	2.4529	22 27 23.0	8.917
4	19 0 18.39	2.4700	26 31 30.6	1.386	4	20 59 13.20	2.4507	22 18 23.5	9.067
5	19 2 46.65	2.4718	26 30 2.6	1.547	5	21 1 40.18	2.4485	22 9 15.0	9.217
6	19 5 15.01	2.4735	26 28 24.9	1.709	6	21 4 7.02	2.4469	21 59 57.5	9.365
7	19 7 43.47	2.4752	26 26 37.5	1.871	7	21 6 33.72	2.4438	21 50 31.2	9.512
8	19 10 12.03	2.4767	26 24 40.4	2.033	8	21 9 0.27	2.4414	21 40 56.1	9.657
9	19 12 40.68	2.4782	26 22 33.5	2.196	9	21 11 26.68	2.4389	21 31 12.3	9.802
10	19 15 9.41	2.4795	26 20 16.9	2.358	10	21 13 52.94	2.4363	21 21 19.8	9.947
11	19 17 38.22	2.4807	26 17 50.5	2.521	11	21 16 19.04	2.4337	21 11 18.6	10.091
12	19 20 7.09	2.4817	26 15 14.4	2.683	12	21 18 44.98	2.4311	21 1 8.9	10.233
13	19 22 36.02	2.4827	26 12 28.5	2.847	13	21 21 10.77	2.4285	20 50 50.6	10.375
14	19 25 5.02	2.4837	26 9 32.8	3.011	14	21 23 36.40	2.4258	20 40 23.9	10.515
15	19 27 34.07	2.4846	26 6 27.2	3.175	15	21 26 1.87	2.4231	20 29 48.8	10.654
16	19 30 3.17	2.4853	26 3 11.8	3.338	16	21 28 27.18	2.4204	20 19 5.4	10.792
17	19 32 32.30	2.4858	25 59 46.7	3.501	17	21 30 52.32	2.4177	20 8 13.7	10.930
18	19 35 1.46	2.4863	25 56 11.7	3.665	18	21 33 17.30	2.4149	19 57 13.8	11.067
19	19 37 30.65	2.4868	25 52 26.9	3.828	19	21 35 42.11	2.4121	19 46 5.7	11.202
20	19 39 59.87	2.4871	25 48 32.3	3.992	20	21 38 6.75	2.4093	19 34 49.6	11.335
21	19 42 29.10	2.4873	25 44 27.9	4.155	21	21 40 31.23	2.4065	19 23 25.5	11.468
22	19 44 58.34	2.4873	25 40 13.7	4.318	22	21 42 55.53	2.4036	19 11 53.4	11.600
23	19 47 27.58	2.4873	25 35 49.7	4.482	23	21 45 19.66	2.4007	19 0 13.5	11.730
24	19 49 56.82	2.4872	S. 25° 31' 15.8"	4.646	24	21 47 43.62	2.3979	S. 18° 48' 25.8"	11.859

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 13.					THURSDAY 15.				
0	^h 21 ^m 47 ^s 43.62	2.3979	S. 18° 48' 25.8"	11.859	0	^h 23 ^m 39 ^s 43.36	2.2804	S. 7° 17' 15.1"	16.326
1	21 50 7.41	2.3950	18 36 30.4	11.987	1	23 42 0.14	2.2790	7 0 54.0	16.377
2	21 52 31.02	2.3921	18 24 27.3	12.115	2	23 44 16.84	2.2777	6 44 29.8	16.427
3	21 54 54.46	2.3892	18 12 16.6	12.241	3	23 46 33.46	2.2764	6 28 2.7	16.475
4	21 57 17.72	2.3863	17 59 58.4	12.365	4	23 48 50.00	2.2751	6 11 32.8	16.521
5	21 59 40.81	2.3834	17 47 32.8	12.487	5	23 51 6.47	2.2738	5 55 0.2	16.565
6	22 2 3.73	2.3805	17 34 59.9	12.609	6	23 53 22.86	2.2727	5 38 25.0	16.607
7	22 4 26.47	2.3776	17 22 19.7	12.730	7	23 55 39.19	2.2717	5 21 47.3	16.647
8	22 6 49.04	2.3747	17 9 32.3	12.848	8	23 57 55.46	2.2707	5 5 7.3	16.685
9	22 9 11.43	2.3718	16 56 37.9	12.965	9	0 0 11.67	2.2697	4 48 25.1	16.722
10	22 11 33.65	2.3689	16 43 36.5	13.082	10	0 2 27.83	2.2689	4 31 40.7	16.757
11	22 13 55.70	2.3660	16 30 28.1	13.197	11	0 4 43.94	2.2681	4 14 54.3	16.789
12	22 16 17.57	2.3631	16 17 12.9	13.310	12	0 7 0.00	2.2673	3 58 6.0	16.820
13	22 18 39.27	2.3602	16 3 50.9	13.422	13	0 9 16.02	2.2666	3 41 15.9	16.848
14	22 21 0.80	2.3574	15 50 22.3	13.532	14	0 11 32.00	2.2660	3 24 24.2	16.874
15	22 23 22.16	2.3546	15 36 47.1	13.641	15	0 13 47.94	2.2654	3 7 31.0	16.899
16	22 25 43.35	2.3518	15 23 5.4	13.748	16	0 16 3.85	2.2650	2 50 36.3	16.922
17	22 28 4.38	2.3491	15 9 17.3	13.854	17	0 18 19.74	2.2646	2 33 40.3	16.943
18	22 30 25.24	2.3463	14 55 22.9	13.958	18	0 20 35.60	2.2642	2 16 43.1	16.962
19	22 32 45.93	2.3435	14 41 22.3	14.062	19	0 22 51.44	2.2639	1 59 44.8	16.979
20	22 35 6.46	2.3408	14 27 15.5	14.163	20	0 25 7.27	2.2637	1 42 45.6	16.994
21	22 37 26.83	2.3382	14 13 2.7	14.262	21	0 27 23.08	2.2635	1 25 45.5	17.007
22	22 39 47.04	2.3355	13 58 44.0	14.361	22	0 29 38.89	2.2635	1 8 44.7	17.018
23	22 42 7.09	2.3328	S. 13 44 19.4	14.458	23	0 31 54.70	2.2634	S. 0 51 43.3	17.027
WEDNESDAY 14.					FRIDAY 16.				
0	22 44 26.98	2.3302	S. 13 29 49.0	14.553	0	0 34 10.50	2.2634	S. 0 34 41.5	17.033
1	22 46 46.72	2.3277	13 15 13.0	14.647	1	0 36 26.31	2.2636	0 17 39.3	17.039
2	22 49 6.30	2.3251	13 0 31.4	14.738	2	0 38 42.13	2.2638	S. 0 0 36.8	17.042
3	22 51 25.73	2.3226	12 45 44.4	14.828	3	0 40 57.96	2.2640	N. 0 16 25.8	17.043
4	22 53 45.01	2.3202	12 30 52.0	14.917	4	0 43 13.81	2.2643	0 33 28.4	17.042
5	22 56 4.15	2.3177	12 15 54.3	15.004	5	0 45 29.68	2.2647	0 50 30.8	17.038
6	22 58 23.14	2.3153	12 0 51.5	15.089	6	0 47 45.58	2.2652	1 7 33.0	17.033
7	23 0 41.99	2.3130	11 45 43.6	15.172	7	0 50 1.51	2.2657	1 24 34.8	17.027
8	23 3 0.70	2.3107	11 30 30.8	15.254	8	0 52 17.47	2.2662	1 41 36.2	17.018
9	23 5 19.27	2.3084	11 15 13.1	15.335	9	0 54 33.46	2.2668	1 58 37.0	17.007
10	23 7 37.70	2.3062	10 59 50.6	15.413	10	0 56 49.49	2.2676	2 15 37.1	16.994
11	23 9 56.01	2.3041	10 44 23.5	15.490	11	0 59 5.57	2.2684	2 32 36.3	16.979
12	23 12 14.19	2.3019	10 28 51.8	15.565	12	1 1 21.70	2.2692	2 49 34.6	16.962
13	23 14 32.24	2.2998	10 13 15.7	15.638	13	1 3 37.88	2.2702	3 6 31.8	16.943
14	23 16 50.17	2.2978	9 57 35.2	15.710	14	1 5 54.12	2.2712	3 23 27.8	16.922
15	23 19 7.98	2.2958	9 41 50.5	15.779	15	1 8 10.42	2.2722	3 40 22.4	16.898
16	23 21 25.67	2.2939	9 26 1.7	15.847	16	1 10 26.78	2.2732	3 57 15.6	16.873
17	23 23 43.25	2.2920	9 10 8.8	15.914	17	1 12 43.21	2.2744	4 14 7.2	16.847
18	23 26 0.71	2.2902	8 54 12.0	15.978	18	1 14 59.71	2.2756	4 30 57.2	16.818
19	23 28 18.07	2.2884	8 38 11.4	16.041	19	1 17 16.28	2.2769	4 47 45.4	16.787
20	23 30 35.32	2.2867	8 22 7.1	16.102	20	1 19 32.94	2.2783	5 4 31.6	16.753
21	23 32 52.47	2.2851	8 5 50.2	16.161	21	1 21 49.68	2.2797	5 21 15.8	16.718
22	23 35 9.53	2.2835	7 49 47.8	16.217	22	1 24 6.51	2.2812	5 37 57.8	16.682
23	23 37 26.49	2.2819	7 33 33.1	16.272	23	1 26 23.43	2.2827	5 54 37.6	16.643
24	23 39 43.36	2.2804	S. 7 17 15.1	16.326	24	1 28 40.44	2.2843	N. 6 11 15.0	16.602

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 17.					MONDAY 19.				
0	^h 1 ^m 28 ^s 40.44	2.9843	N. 6° 11' 15.0"	16.602	0	^h 3 ^m 21 ^s 1.29	2.4079	N. 18° 5' 3.0"	12.462
1	1 30 57.55	2.9860	6 27 49.9	16.559	1	3 23 25.85	2.4108	18 17 26.9	12.335
2	1 33 14.76	2.9877	6 44 22.1	16.514	2	3 25 50.59	2.4138	18 29 43.2	12.207
3	1 35 32.07	2.9894	7 0 51.6	16.467	3	3 28 15.51	2.4167	18 41 51.8	12.078
4	1 37 49.49	2.9919	7 17 18.2	16.418	4	3 30 40.60	2.4196	18 53 52.6	11.947
5	1 40 7.02	2.9931	7 33 41.8	16.367	5	3 33 5.86	2.4225	19 5 45.5	11.815
6	1 42 24.66	2.9950	7 50 2.3	16.315	6	3 35 31.30	2.4253	19 17 30.4	11.681
7	1 44 42.42	2.9970	8 6 19.6	16.260	7	3 37 56.90	2.4281	19 29 7.2	11.547
8	1 47 0.30	2.9991	8 22 33.5	16.203	8	3 40 22.67	2.4309	19 40 36.0	11.419
9	1 49 18.31	2.3012	8 38 44.0	16.145	9	3 42 48.61	2.4337	19 51 56.6	11.274
10	1 51 36.44	2.3033	8 54 50.9	16.084	10	3 45 14.71	2.4364	20 3 8.9	11.136
11	1 53 54.70	2.3055	9 10 54.1	16.023	11	3 47 40.98	2.4391	20 14 12.9	10.997
12	1 56 13.10	2.3077	9 26 53.6	15.959	12	3 50 7.41	2.4418	20 25 8.5	10.856
13	1 58 31.63	2.3100	9 42 49.2	15.892	13	3 52 34.00	2.4444	20 35 55.6	10.714
14	2 0 50.30	2.3123	9 58 40.7	15.823	14	3 55 0.74	2.4469	20 46 34.2	10.571
15	2 3 9.10	2.3146	10 14 28.0	15.753	15	3 57 27.63	2.4494	20 57 4.1	10.427
16	2 5 28.05	2.3171	10 30 11.1	15.682	16	3 59 54.07	2.4519	21 7 25.4	10.282
17	2 7 47.15	2.3195	10 45 49.8	15.608	17	4 2 21.86	2.4543	21 17 38.0	10.136
18	2 10 6.39	2.3219	11 1 24.1	15.533	18	4 4 49.19	2.4567	21 27 41.7	9.989
19	2 12 25.78	2.3245	11 16 53.8	15.456	19	4 7 16.66	2.4590	21 37 36.6	9.841
20	2 14 45.33	2.3271	11 32 18.8	15.376	20	4 9 44.27	2.4613	21 47 22.6	9.692
21	2 17 5.04	2.3297	11 47 38.9	15.294	21	4 12 12.02	2.4636	21 56 59.6	9.542
22	2 19 24.90	2.3323	12 2 54.1	15.212	22	4 14 39.90	2.4657	22 6 27.6	9.391
23	2 21 44.92	2.3350	N. 12 18 4.3	15.127	23	4 17 7.90	2.4678	N. 22 15 46.5	9.239
SUNDAY 18.					TUESDAY 20.				
0	2 24 5.10	2.3377	N. 12 33 9.4	15.041	0	4 19 36.03	2.4698	N. 22 24 56.3	9.087
1	2 26 25.44	2.3404	12 48 9.2	14.952	1	4 22 4.28	2.4717	22 33 56.9	8.933
2	2 28 45.95	2.3439	13 3 3.7	14.862	2	4 24 32.64	2.4736	22 42 48.3	8.779
3	2 31 6.63	2.3461	13 17 52.7	14.771	3	4 27 1.11	2.4754	22 51 30.4	8.623
4	2 33 27.48	2.3488	13 32 36.2	14.677	4	4 29 29.69	2.4772	23 0 3.1	8.467
5	2 35 48.49	2.3516	13 47 14.0	14.582	5	4 31 58.37	2.4789	23 8 26.5	8.311
6	2 38 9.67	2.3545	14 1 46.0	14.484	6	4 34 27.16	2.4806	23 16 40.5	8.154
7	2 40 31.03	2.3574	14 16 12.1	14.386	7	4 36 56.04	2.4821	23 24 45.0	7.996
8	2 42 52.56	2.3603	14 30 32.3	14.286	8	4 39 25.01	2.4835	23 32 40.0	7.838
9	2 45 14.27	2.3632	14 44 46.4	14.183	9	4 41 54.06	2.4848	23 40 25.6	7.680
10	2 47 36.15	2.3662	14 58 54.3	14.079	10	4 44 23.19	2.4861	23 48 1.6	7.520
11	2 49 58.21	2.3692	15 12 55.9	13.974	11	4 46 52.40	2.4873	23 55 28.0	7.359
12	2 52 20.45	2.3722	15 26 51.2	13.867	12	4 49 21.67	2.4884	24 2 44.7	7.196
13	2 54 42.87	2.3752	15 40 40.0	13.758	13	4 51 51.01	2.4895	24 9 51.8	7.037
14	2 57 5.47	2.3781	15 54 22.2	13.648	14	4 54 20.41	2.4904	24 16 49.2	6.876
15	2 59 28.24	2.3811	16 7 57.8	13.537	15	4 56 49.86	2.4913	24 23 36.9	6.714
16	3 1 51.19	2.3840	16 21 26.6	13.423	16	4 59 19.36	2.4921	24 30 14.8	6.551
17	3 4 14.32	2.3871	16 34 48.6	13.308	17	5 1 48.91	2.4928	24 36 43.0	6.388
18	3 6 37.64	2.3901	16 48 3.6	13.191	18	5 4 18.49	2.4933	24 43 1.4	6.225
19	3 9 1.14	2.3931	17 1 11.5	13.073	19	5 6 48.10	2.4938	24 49 10.0	6.062
20	3 11 24.81	2.3960	17 14 12.4	12.955	20	5 9 17.74	2.4943	24 55 8.8	5.896
21	3 13 48.66	2.3990	17 27 6.1	12.834	21	5 11 47.41	2.4946	25 0 57.7	5.733
22	3 16 12.69	2.4020	17 39 52.5	12.712	22	5 14 17.09	2.4947	25 6 36.7	5.568
23	3 18 36.90	2.4050	17 52 31.5	12.588	23	5 16 46.77	2.4947	25 12 5.9	5.404
24	3 21 1.29	2.4079	N. 18 5 3.0	12.462	24	5 19 16.45	2.4947	N. 25 17 25.2	5.239

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 21.					FRIDAY 23.				
0	h m s	s	N. 25 17 25.2	5.209	0	h m s	s	N. 26 22 3.4	2.372
1	5 19 16.45	2.4947	25 22 34.6	5.074	1	7 17 2.66	2.3745	26 19 36.8	2.515
2	5 21 46.13	2.4946	25 27 34.1	4.909	2	7 19 24.90	2.3698	26 17 1.6	2.657
3	5 24 15.80	2.4944	25 32 23.7	4.744	3	7 21 47.04	2.3651	26 14 17.9	2.799
4	5 26 45.46	2.4942	25 37 3.4	4.578	4	7 24 8.80	2.3602	26 11 25.7	2.940
5	5 29 15.10	2.4938	25 41 33.1	4.413	5	7 26 30.27	2.3553	26 8 25.1	3.079
6	5 31 44.71	2.4932	25 45 53.0	4.249	6	7 28 51.44	2.3503	26 5 16.2	3.218
7	5 34 14.28	2.4925	25 50 3.0	4.084	7	7 31 12.31	2.3453	26 1 59.0	3.356
8	5 36 43.81	2.4918	25 54 3.0	3.918	8	7 33 32.88	2.3403	25 58 33.5	3.492
9	5 39 13.30	2.4910	25 57 53.1	3.752	9	7 35 53.14	2.3352	25 54 59.9	3.627
10	5 41 42.73	2.4900	26 1 33.3	3.587	10	7 38 13.10	2.3300	25 51 18.2	3.762
11	5 44 12.10	2.4890	26 5 3.6	3.423	11	7 40 32.74	2.3247	25 47 28.4	3.897
12	5 46 41.41	2.4878	26 8 24.1	3.259	12	7 42 52.07	2.3195	25 43 30.6	4.030
13	5 49 10.64	2.4865	26 11 34.7	3.094	13	7 45 11.08	2.3142	25 39 24.8	4.162
14	5 51 39.79	2.4852	26 14 35.4	2.929	14	7 47 29.77	2.3088	25 35 11.2	4.292
15	5 54 8.86	2.4838	26 17 26.2	2.765	15	7 49 48.13	2.3033	25 30 49.8	4.421
16	5 56 37.84	2.4822	26 20 7.2	2.602	16	7 52 6.17	2.2979	25 26 20.7	4.550
17	5 59 6.72	2.4804	26 22 38.4	2.438	17	7 54 23.88	2.2924	25 21 43.8	4.678
18	6 1 35.49	2.4786	26 24 59.7	2.274	18	7 56 41.26	2.2869	25 16 59.3	4.804
19	6 4 4.15	2.4767	26 27 11.2	2.111	19	7 58 58.31	2.2813	25 12 7.3	4.930
20	6 6 32.70	2.4747	26 29 13.0	1.949	20	8 1 15.02	2.2757	25 7 7.7	5.055
21	6 9 1.12	2.4726	26 31 5.1	1.787	21	8 3 31.39	2.2701	25 2 0.7	5.178
22	6 11 29.41	2.4704	26 32 47.4	1.624	22	8 5 47.43	2.2645	24 56 46.4	5.300
23	6 13 57.56	2.4681	N. 26 34 20.0	1.463	23	8 8 3.13	2.2588	N. 24 51 24.7	5.422
24	6 16 25.58	2.4657				8 10 18.49	2.2531		
THURSDAY 22.					SATURDAY 24.				
0	6 18 53.45	2.4632	N. 26 35 43.0	1.302	0	8 12 33.50	2.2473	N. 24 45 55.7	5.543
1	6 21 21.16	2.4605	26 36 56.3	1.149	1	8 14 48.17	2.2416	24 40 19.5	5.662
2	6 23 48.71	2.4578	26 38 0.0	0.982	2	8 17 2.49	2.2358	24 34 36.2	5.780
3	6 26 16.10	2.4550	26 38 54.1	0.823	3	8 19 16.47	2.2301	24 28 45.9	5.897
4	6 28 43.31	2.4520	26 39 38.7	0.664	4	8 21 30.10	2.2244	24 22 48.6	6.013
5	6 31 10.34	2.4490	26 40 13.8	0.505	5	8 23 43.38	2.2184	24 16 44.3	6.128
6	6 33 37.19	2.4459	26 40 39.3	0.347	6	8 25 56.31	2.2126	24 10 33.2	6.244
7	6 36 3.85	2.4427	26 40 55.4	0.190	7	8 28 8.89	2.2067	24 4 15.3	6.355
8	6 38 30.31	2.4393	26 41 2.1	+ 0.033	8	8 30 21.12	2.2009	23 57 50.6	6.467
9	6 40 56.57	2.4359	26 40 59.4	- 0.122	9	8 32 33.00	2.1951	23 51 19.2	6.578
10	6 43 22.62	2.4324	26 40 27.4	0.277	10	8 34 44.53	2.1892	23 44 41.2	6.687
11	6 45 48.46	2.4288	26 40 46.1	0.432	11	8 36 55.71	2.1833	23 37 56.7	6.796
12	6 48 14.08	2.4252	26 39 55.5	0.586	12	8 39 6.53	2.1774	23 31 5.7	6.903
13	6 50 39.48	2.4214	26 39 15.7	0.739	13	8 41 17.00	2.1716	23 24 8.3	7.010
14	6 53 4.65	2.4175	26 38 26.8	0.892	14	8 43 27.13	2.1658	23 17 4.5	7.116
15	6 55 29.58	2.4135	26 37 28.7	1.044	15	8 45 36.90	2.1599	23 9 54.4	7.221
16	6 57 54.27	2.4095	26 36 21.5	1.195	16	8 47 46.32	2.1541	23 2 38.0	7.324
17	7 0 18.72	2.4055	26 35 5.3	1.344	17	8 49 55.39	2.1482	22 55 15.5	7.426
18	7 2 42.93	2.4013	26 33 40.2	1.493	18	8 52 4.11	2.1424	22 47 46.9	7.527
19	7 5 6.88	2.3970	26 32 6.1	1.642	19	8 54 12.48	2.1366	22 40 12.3	7.627
20	7 7 30.57	2.3927	26 30 23.1	1.790	20	8 56 20.50	2.1308	22 32 31.6	7.727
21	7 9 54.00	2.3882	26 28 31.3	1.937	21	8 58 28.18	2.1251	22 24 45.0	7.826
22	7 12 17.16	2.3837	26 26 30.7	2.082	22	9 0 35.51	2.1193	22 16 52.5	7.923
23	7 14 40.05	2.3799	26 24 21.4	2.227	23	9 2 42.49	2.1135	22 8 54.3	8.018
24	7 17 2.66	2.3745	N. 26 22 3.4	2.372	24	9 4 49.13	2.1077	N. 22 0 50.4	8.113

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 25.					TUESDAY 27.				
0	^h 4 ^m 49.13 ^s	2.1077	N. 22° 0' 50.4"	8.113	0	^h 10 ^m 39 59.98 ^s	1.8750	N. 14° 0' 25.1"	11.556
1	9 6 55.42	2.1030	21 52 40.8	8.908	1	10 41 52.37	1.8713	13 48 50.2	11.606
2	9 9 1.37	2.0963	21 44 25.5	8.301	2	10 43 44.54	1.8677	13 37 12.4	11.655
3	9 11 6.98	2.0907	21 36 4.7	8.393	3	10 45 36.49	1.8641	13 25 31.6	11.704
4	9 13 12.25	2.0850	21 27 38.4	8.483	4	10 47 28.23	1.8606	13 13 47.9	11.752
5	9 15 17.18	2.0794	21 19 6.7	8.573	5	10 49 19.77	1.8579	13 2 1.3	11.800
6	9 17 21.78	2.0738	21 10 29.7	8.661	6	10 51 11.10	1.8538	12 50 11.9	11.846
7	9 19 26.04	2.0682	21 1 47.4	8.749	7	10 53 2.23	1.8506	12 38 19.8	11.892
8	9 21 29.97	2.0627	20 52 59.8	8.837	8	10 54 53.17	1.8474	12 26 24.9	11.937
9	9 23 33.56	2.0571	20 44 7.0	8.923	9	10 56 43.92	1.8443	12 14 27.3	11.982
10	9 25 36.82	2.0516	20 35 9.1	9.008	10	10 58 34.48	1.8419	12 2 27.1	12.025
11	9 27 39.76	2.0462	20 26 6.1	9.092	11	11 0 24.86	1.8381	11 50 24.3	12.068
12	9 29 42.37	2.0408	20 16 58.1	9.174	12	11 2 15.05	1.8351	11 38 18.9	12.111
13	9 31 44.66	2.0354	20 7 45.2	9.256	13	11 4 5.07	1.8322	11 26 11.0	12.152
14	9 33 46.62	2.0300	19 58 27.4	9.337	14	11 5 54.91	1.8293	11 14 0.7	12.192
15	9 35 48.26	2.0247	19 49 4.7	9.418	15	11 7 44.58	1.8264	11 1 48.0	12.232
16	9 37 49.58	2.0194	19 39 37.2	9.497	16	11 9 34.08	1.8237	10 49 32.9	12.271
17	9 39 50.59	2.0142	19 30 5.1	9.574	17	11 11 23.42	1.8210	10 37 15.5	12.309
18	9 41 51.29	2.0091	19 20 28.3	9.651	18	11 13 12.60	1.8183	10 24 55.8	12.347
19	9 43 51.68	2.0039	19 10 46.9	9.728	19	11 15 1.62	1.8157	10 12 33.8	12.384
20	9 45 51.76	1.9988	19 1 0.9	9.804	20	11 16 50.49	1.8133	10 0 9.7	12.420
21	9 47 51.53	1.9937	18 51 10.4	9.878	21	11 18 39.22	1.8109	9 47 43.4	12.456
22	9 49 51.00	1.9887	18 41 15.5	9.952	22	11 20 27.80	1.8085	9 35 15.0	12.490
23	9 51 50.17	1.9836	N. 18 31 16.2	10.024	23	11 22 16.24	1.8063	N. 9 22 44.6	12.524
MONDAY 26.					WEDNESDAY 28.				
0	9 53 49.03	1.9786	N. 18 21 12.6	10.096	0	11 24 4.55	1.8041	N. 9 10 12.1	12.558
1	9 55 47.60	1.9737	18 11 4.7	10.167	1	11 25 52.73	1.8018	8 57 37.6	12.591
2	9 57 45.88	1.9689	18 0 52.6	10.236	2	11 27 40.77	1.7996	8 45 1.2	12.623
3	9 59 43.87	1.9641	17 50 36.4	10.305	3	11 29 28.68	1.7975	8 32 22.9	12.654
4	10 1 41.57	1.9594	17 40 16.0	10.374	4	11 31 16.47	1.7956	8 19 42.7	12.684
5	10 3 38.99	1.9547	17 29 51.5	10.441	5	11 33 4.15	1.7937	8 7 0.8	12.713
6	10 5 36.13	1.9500	17 19 23.1	10.507	6	11 34 51.71	1.7918	7 54 17.1	12.743
7	10 7 32.99	1.9453	17 8 50.7	10.573	7	11 36 39.16	1.7899	7 41 31.6	12.772
8	10 9 29.57	1.9407	16 58 14.4	10.637	8	11 38 26.50	1.7882	7 28 44.5	12.799
9	10 11 25.88	1.9362	16 47 34.3	10.700	9	11 40 13.74	1.7865	7 15 55.7	12.826
10	10 13 21.92	1.9318	16 36 50.4	10.763	10	11 42 0.88	1.7849	7 3 5.3	12.852
11	10 15 17.70	1.9274	16 26 2.7	10.826	11	11 43 47.93	1.7833	6 50 13.4	12.878
12	10 17 13.21	1.9230	16 15 11.3	10.887	12	11 45 34.88	1.7817	6 37 19.9	12.904
13	10 19 8.46	1.9187	16 4 16.3	10.947	13	11 47 21.74	1.7804	6 24 24.9	12.928
14	10 21 3.46	1.9145	15 53 17.7	11.006	14	11 49 8.52	1.7791	6 11 28.5	12.951
15	10 22 58.20	1.9103	15 42 15.6	11.064	15	11 50 55.23	1.7778	5 58 30.8	12.974
16	10 24 52.69	1.9061	15 31 10.0	11.122	16	11 52 41.86	1.7765	5 45 31.7	12.996
17	10 26 46.93	1.9020	15 20 0.9	11.180	17	11 54 28.41	1.7753	5 32 31.3	13.017
18	10 28 40.93	1.8980	15 8 48.4	11.237	18	11 56 14.89	1.7741	5 19 29.6	13.038
19	10 30 34.69	1.8940	14 57 32.5	11.292	19	11 58 1.30	1.7731	5 6 26.7	13.058
20	10 32 28.21	1.8900	14 46 13.4	11.345	20	11 59 47.66	1.7722	4 53 22.6	13.078
21	10 34 21.49	1.8861	14 34 51.1	11.398	21	12 1 33.96	1.7712	4 40 17.3	13.097
22	10 36 14.54	1.8823	14 23 25.6	11.451	22	12 3 20.20	1.7704	4 27 10.9	13.115
23	10 38 7.37	1.8786	14 11 56.9	11.504	23	12 5 6.40	1.7696	4 14 3.5	13.132
24	10 39 59.98	1.8750	N. 14 0 25.1	11.556	24	12 6 52.55	1.7688	N. 4 0 55.1	13.148

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 29.					SATURDAY 31.				
0	12 6 52.55	1.7688	N. 4° 0' 55.1"	13.148	0	13 32 8.34	1.8080	S. 6° 35' 58.4"	13.107
1	12 8 38.65	1.7681	3 47 45.7	13.164	1	13 33 56.89	1.8104	6 49 4.3	13.087
2	12 10 24.72	1.7676	3 34 35.4	13.180	2	13 35 45.59	1.8128	7 2 8.9	13.067
3	12 12 10.76	1.7671	3 21 24.1	13.195	3	13 37 34.43	1.8152	7 15 12.3	13.046
4	12 13 56.77	1.7666	3 8 12.0	13.209	4	13 39 23.42	1.8177	7 28 14.4	13.024
5	12 15 42.75	1.7661	2 54 59.1	13.222	5	13 41 12.56	1.8203	7 41 15.2	13.002
6	12 17 28.70	1.7657	2 41 45.4	13.234	6	13 43 1.86	1.8230	7 54 14.6	12.978
7	12 19 14.63	1.7654	2 28 31.0	13.246	7	13 44 51.32	1.8257	8 7 12.6	12.954
8	12 21 0.55	1.7650	2 15 15.9	13.257	8	13 46 40.95	1.8285	8 20 9.1	12.928
9	12 22 46.46	1.7651	2 2 0.2	13.267	9	13 48 30.74	1.8313	8 33 4.0	12.902
10	12 24 32.36	1.7650	1 48 43.8	13.277	10	13 50 20.70	1.8342	8 45 57.3	12.875
11	12 26 18.26	1.7649	1 35 26.9	13.286	11	13 52 10.84	1.8372	8 58 49.0	12.847
12	12 28 4.15	1.7649	1 22 9.5	13.294	12	13 54 1.16	1.8402	9 11 39.0	12.818
13	12 29 50.05	1.7651	1 8 51.6	13.302	13	13 55 51.66	1.8432	9 24 27.2	12.789
14	12 31 35.96	1.7652	0 55 33.3	13.309	14	13 57 42.35	1.8463	9 37 13.7	12.759
15	12 33 21.88	1.7654	0 42 14.5	13.316	15	13 59 33.22	1.8494	9 49 58.3	12.727
16	12 35 7.81	1.7657	0 28 55.4	13.321	16	14 1 24.28	1.8527	10 2 41.0	12.695
17	12 36 53.76	1.7661	0 15 36.0	13.325	17	14 3 15.54	1.8560	10 15 21.7	12.662
18	12 38 39.74	1.7666	N. 0 2 16.4	13.329	18	14 5 7.00	1.8593	10 28 0.4	12.627
19	12 40 25.75	1.7670	S. 0 11 3.5	13.332	19	14 6 58.66	1.8627	10 40 37.0	12.592
20	12 42 11.78	1.7674	0 24 23.5	13.335	20	14 8 50.53	1.8662	10 53 11.5	12.557
21	12 43 57.84	1.7680	0 37 43.7	13.337	21	14 10 42.61	1.8697	11 5 43.9	12.521
22	12 45 43.94	1.7687	0 51 4.0	13.338	22	14 12 34.90	1.8733	11 18 14.0	12.483
23	12 47 30.09	1.7695	S. 1 4 24.3	13.338	23	14 14 27.41	1.8769	S. 11 30 41.8	12.444
FRIDAY 30.					SUNDAY, NOVEMBER 1.				
0	12 49 16.28	1.7703	S. 1 17 44.6	13.338	0	14 16 20.13	1.8806	S. 11 43 7.3	12.405
1	12 51 2.52	1.7712	1 31 4.9	13.337	PHASES OF THE MOON.				
2	12 52 48.82	1.7721	1 44 25.1	13.336					
3	12 54 35.17	1.7730	1 57 45.2	13.333					
4	12 56 21.58	1.7741	2 11 5.1	13.330					
5	12 58 8.06	1.7752	2 24 24.8	13.326	● New Moon . . . Oct. ☾ First Quarter ○ Full Moon ☾ Last Quarter d h m 2 12 57.8 10 10 56.7 17 1 45.0 24 1 56.1				
6	12 59 54.60	1.7763	2 37 44.2	13.321					
7	13 1 41.21	1.7775	2 51 3.3	13.316					
8	13 3 27.90	1.7789	3 4 22.1	13.311					
9	13 5 14.68	1.7803	3 17 40.6	13.304	d h 1 9.8 16 5.4 28 16.7				
10	13 7 1.54	1.7817	3 30 58.6	13.296					
11	13 8 48.48	1.7831	3 44 16.1	13.287					
12	13 10 35.51	1.7847	3 57 33.0	13.278					
13	13 12 22.64	1.7863	4 10 49.4	13.268	d h 1 9.8 16 5.4 28 16.7				
14	13 14 9.87	1.7879	4 24 5.2	13.257					
15	13 15 57.19	1.7896	4 37 20.3	13.246					
16	13 17 44.62	1.7914	4 50 34.7	13.233					
17	13 19 32.16	1.7933	5 3 48.3	13.220	d h 1 9.8 16 5.4 28 16.7				
18	13 21 19.82	1.7952	5 17 1.1	13.207					
19	13 23 7.59	1.7972	5 30 13.1	13.192					
20	13 24 55.48	1.7992	5 43 24.1	13.176					
21	13 26 43.50	1.8014	5 56 34.2	13.160	d h 1 9.8 16 5.4 28 16.7				
22	13 28 31.65	1.8036	6 9 43.3	13.143					
23	13 30 19.93	1.8058	6 22 51.4	13.126					
24	13 32 8.34	1.8080	S. 6 35 58.4	13.107					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
4	SUN	W.	16 6 48	3516	17 26 54	3497	18 47 22	3480	20 8 9	3463
	Antares	E.	41 56 34	3047	40 27 19	3043	38 58 0	3040	37 28 37	3038
	α Aquilæ	E.	91 40 17	3835	90 25 51	3831	89 11 21	3827	87 56 47	3825
	Fomalhaut	E.	123 50 0	3976	122 25 21	3965	121 0 28	3953	119 35 21	3941
5	SUN	W.	26 55 57	3405	28 18 8	3394	29 40 31	3386	31 3 4	3376
	Antares	E.	30 0 53	3024	28 31 10	3022	27 1 25	3022	25 31 39	3020
	α Aquilæ	E.	81 43 31	3822	80 28 52	3825	79 14 16	3827	77 59 42	3831
	Fomalhaut	E.	112 26 34	3190	111 0 13	3180	109 33 40	3171	108 6 56	3162
6	SUN	W.	37 58 28	3331	39 22 4	3321	40 45 51	3313	42 9 48	3302
	α Aquilæ	E.	71 48 12	3866	70 34 18	3877	69 20 35	3869	68 7 4	3902
	Fomalhaut	E.	100 50 33	3117	99 22 44	3109	97 54 45	3100	96 26 35	2991
	JUPITER	E.	108 31 45	2918	106 59 49	2911	105 27 44	2903	103 55 29	2896
7	SUN	W.	49 12 27	3253	50 37 34	3242	52 2 54	3231	53 28 26	3220
	α Aquilæ	E.	62 3 27	3997	60 51 44	4023	59 40 27	4051	58 29 38	4083
	Fomalhaut	E.	89 3 4	3047	87 33 50	3039	86 4 25	3030	84 34 49	3021
	JUPITER	E.	96 11 45	2855	94 38 28	2845	93 4 59	2837	91 31 19	2827
8	α Pegasi	E.	107 56 10	3313	106 32 14	3297	105 7 59	3282	103 43 26	3267
	SUN	W.	60 39 29	3182	62 6 24	3148	63 33 35	3136	65 1 1	3123
	α Aquilæ	E.	52 44 14	4296	51 37 18	4353	50 31 14	4417	49 26 8	4488
	Fomalhaut	E.	77 4 6	2977	75 33 25	2969	74 2 33	2960	72 31 30	2951
9	JUPITER	E.	83 39 45	2776	82 4 46	2765	80 29 32	2753	78 54 3	2742
	α Pegasi	E.	96 36 23	3196	95 10 9	3183	93 43 39	3170	92 16 54	3158
	SUN	W.	72 22 16	3054	73 51 22	3039	75 20 47	3024	76 50 30	3009
	Antares	W.	20 3 23	2765	21 38 37	2742	23 14 21	2722	24 50 32	2701
10	Fomalhaut	E.	64 53 37	2912	63 21 33	2904	61 49 19	2898	60 16 57	2891
	JUPITER	E.	70 52 46	2681	69 15 41	2669	67 38 19	2655	66 0 39	2641
	α Pegasi	E.	84 59 27	3099	83 31 16	3087	82 2 51	3078	80 34 14	3068
	α Arietis	E.	127 45 58	2845	126 12 28	2826	124 38 34	2807	123 4 15	2788
11	SUN	W.	84 23 52	2930	85 55 33	2914	87 27 34	2897	88 59 57	2880
	Antares	W.	32 57 46	2612	34 36 25	2595	36 15 27	2577	37 54 53	2561
	Fomalhaut	E.	52 33 19	2869	51 0 21	2867	49 27 20	2867	47 54 19	2869
	JUPITER	E.	57 47 41	2573	56 8 8	2559	54 28 16	2543	52 48 3	2529
12	α Pegasi	E.	73 8 17	3026	71 38 36	3018	70 8 46	3013	68 38 49	3009
	α Arietis	E.	115 6 34	2696	113 29 49	2679	111 52 41	2661	110 15 9	2643
	SUN	W.	96 47 16	2795	98 21 51	2777	99 56 49	2760	101 32 10	2742
	Antares	W.	46 17 55	2475	47 59 43	2458	49 41 55	2441	51 24 31	2425
13	JUPITER	E.	44 21 51	2455	42 39 34	2441	40 56 57	2426	39 13 58	2412
	α Pegasi	E.	61 8 3	3001	59 37 52	3004	58 7 44	3009	56 37 43	3016
	α Arietis	E.	102 1 30	2556	100 21 35	2539	98 41 16	2522	97 0 33	2504
	SUN	W.	109 34 44	2655	111 12 25	2637	112 50 30	2620	114 28 58	2603
14	Antares	W.	60 3 30	2341	61 48 30	2324	63 33 55	2307	65 19 44	2291
	JUPITER	E.	30 34 4	2343	28 49 7	2331	27 3 53	2322	25 18 25	2313
	α Pegasi	E.	49 10 56	3097	47 42 43	3124	46 15 3	3158	44 48 4	3198
	α Arietis	E.	88 31 4	2422	86 48 0	2406	85 4 34	2391	83 20 46	2375

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
4	SUN	W.	21° 29' 14"	3450	22° 50' 34"	3437	24° 12' 9"	3435	25° 33' 57"	3415
	Antares	E.	35 59 11	3035	34 29 42	3032	33 0 9	3030	31 30 33	3026
	α Aquilæ	E.	86 42 11	3892	85 27 32	3891	84 12 52	3890	82 58 11	3821
	Fomalhaut	E.	118 10 0	3931	116 44 27	3920	115 18 41	3909	113 52 43	3900
5	SUN	W.	32 25 48	3367	33 48 42	3358	35 11 47	3349	36 35 2	3339
	Antares	E.	24 1 51	3020	22 32 3	3022	21 2 17	3023	19 32 33	3026
	α Aquilæ	E.	76 45 12	3836	75 30 47	3842	74 16 28	3849	73 2 16	3856
	Fomalhaut	E.	106 40 1	3153	105 12 55	3143	103 45 38	3135	102 18 11	3116
6	SUN	W.	43 33 57	3993	44 58 17	3982	46 22 49	3973	47 47 32	3963
	α Aquilæ	E.	66 53 46	3918	65 40 44	3934	64 27 59	3953	63 15 33	3973
	Fomalhaut	E.	94 58 14	3092	93 29 42	3073	92 1 0	3065	90 32 7	3056
	JUPITER	E.	102 23 5	2888	100 50 31	2880	99 17 46	2872	97 44 51	2863
7	SUN	W.	54 54 11	3909	56 20 10	3198	57 46 22	3186	59 12 48	3173
	α Aquilæ	E.	57 19 20	4117	56 9 35	4156	55 0 27	4198	53 51 59	4244
	Fomalhaut	E.	83 5 2	3012	81 35 4	3004	80 4 56	2994	78 34 36	2986
	JUPITER	E.	89 57 26	2818	88 23 21	2807	86 49 2	2797	85 14 30	2787
8	α Pegasi	E.	102 18 36	3252	100 53 28	3237	99 28 3	3223	98 2 21	3209
	SUN	W.	66 28 43	3110	67 56 41	3096	69 24 56	3082	70 53 27	3068
	α Aquilæ	E.	48 22 5	4565	47 19 10	4651	46 17 29	4747	45 17 9	4855
	Fomalhaut	E.	71 0 16	2943	(8) 28 52	2935	67 57 17	2927	66 25 32	2919
9	JUPITER	E.	77 18 19	2731	75 42 20	2719	74 6 5	2707	72 29 34	2694
	α Pegasi	E.	90 49 54	3145	89 22 39	3133	87 55 9	3121	86 27 25	3110
	SUN	W.	78 20 31	2993	79 50 52	2978	81 21 32	2962	82 52 32	2946
	Antares	W.	26 27 10	2683	28 4 13	2665	29 41 40	2647	31 19 31	2629
10	Fomalhaut	E.	58 44 27	2885	57 11 49	2880	55 39 5	2875	54 6 14	2872
	JUPITER	E.	64 22 40	2628	62 44 23	2615	61 5 48	2601	59 26 54	2587
	α Pegasi	E.	79 5 25	3058	77 36 24	3049	76 7 12	3040	74 37 49	3033
	α Arietis	E.	121 29 31	2769	119 54 23	2751	118 18 51	2733	116 42 55	2714
11	SUN	W.	90 32 41	2863	92 5 47	2847	93 39 14	2829	95 13 4	2812
	Antares	W.	39 34 42	2543	41 14 55	2527	42 55 31	2510	44 36 31	2492
	Fomalhaut	E.	46 21 21	2873	44 48 27	2878	43 15 40	2867	41 43 4	2857
	JUPITER	E.	51 7 30	2514	49 26 36	2499	47 45 22	2485	46 3 47	2470
12	α Pegasi	E.	67 8 47	3005	65 38 40	3001	64 8 29	3000	62 38 16	3000
	α Arietis	E.	108 37 13	2626	106 58 53	2608	105 20 9	2591	103 41 1	2574
	SUN	W.	103 7 54	2725	104 44 1	2707	106 20 32	2689	107 57 26	2672
	Antares	W.	53 7 30	2408	54 50 54	2391	56 34 42	2374	58 18 54	2357
13	JUPITER	E.	37 30 40	2397	35 47 1	2383	34 3 2	2369	32 18 43	2355
	α Pegasi	E.	55 7 50	3026	53 38 9	3039	52 8 44	3054	50 39 38	3073
	α Arietis	E.	95 19 26	2488	93 37 56	2471	91 56 2	2455	90 13 45	2438
14	SUN	W.	116 7 49	2586	117 47 3	2569	119 26 40	2553	121 6 40	2537
	Antares	W.	67 5 56	2275	68 52 32	2260	70 39 31	2243	72 26 54	2229
	JUPITER	E.	23 32 44	2306	21 46 53	2300	20 0 54	2297	18 14 50	2296
	α Pegasi	E.	43 21 52	3245	41 56 36	3200	40 32 24	3265	39 9 27	3443
15	α Arietis	E.	81 36 36	2361	79 52 5	2346	78 7 12	2338	76 21 59	2317

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
12	Aldebaran E.	118° 56' 26"	2265	117° 12' 1"	2246	115° 27' 12"	2231	113° 41' 58"	2215
13	Sun W.	122 47 2	2521	124 27 46	2506	126 8 51	2490	127 50 18	2476
	Antares W.	74 14 39	2213	76 2 47	2198	77 51 17	2184	79 40 9	2170
	α Arietis E.	74 36 25	2204	72 50 32	2192	71 4 21	2180	69 17 52	2168
	Aldebaran E.	104 49 47	2224	103 2 10	2219	101 14 11	2204	99 25 50	2190
14	Antares W.	88 49 38	2105	90 40 30	2094	92 31 39	2083	94 23 5	2072
	α Aquilæ W.	49 36 0	2723	50 52 23	2697	52 10 28	2639	53 30 9	2458
	α Arietis E.	60 21 29	2221	58 33 33	2215	56 45 28	2210	54 57 15	2206
	Aldebaran E.	90 18 52	2194	88 28 30	2113	86 37 51	2102	84 46 55	2092
15	Antares W.	103 44 3	2028	105 36 53	2022	107 29 53	2016	109 23 3	2010
	α Aquilæ W.	60 28 57	3149	61 56 7	3104	63 24 12	3061	64 53 9	3024
	Fomalhaut W.	25 31 55	2080	27 0 29	2044	28 31 52	2031	30 5 40	2735
	α Arietis E.	45 55 19	2207	44 7 2	2214	42 18 55	2223	40 31 1	2235
	Aldebaran E.	75 28 38	2050	73 36 21	2044	71 43 55	2039	69 51 21	2033
	Pollux E.	119 33 48	2025	117 40 52	2016	115 47 46	2012	113 54 30	2006
16	α Aquilæ W.	72 28 9	2287	74 0 45	2269	75 33 44	2254	77 7 2	2241
	Fomalhaut W.	38 20 31	2441	40 3 8	2405	41 46 36	2374	43 30 48	2348
	Jupiter W.	29 0 20	2003	30 53 49	1998	32 47 26	1995	34 41 8	1993
	Aldebaran E.	60 27 3	2023	58 34 4	2023	56 41 5	2025	54 48 9	2027
	Pollux E.	104 26 19	1989	102 32 27	1988	100 38 34	1987	98 44 40	1987
17	α Aquilæ W.	84 56 35	2215	86 30 43	2217	88 4 49	2221	89 38 50	2222
	Fomalhaut W.	52 19 27	2270	54 6 11	2262	55 53 6	2257	57 40 9	2253
	Jupiter W.	44 9 50	2000	46 3 25	2003	47 56 54	2009	49 50 15	2015
	α Pegasi W.	37 36 41	2231	39 2 13	2139	40 29 35	2080	41 58 34	2291
	Aldebaran E.	45 25 0	2056	43 32 53	2066	41 41 1	2076	39 49 25	2088
	Pollux E.	89 15 43	2001	87 22 11	2007	85 28 48	2013	83 35 34	2019
18	α Aquilæ W.	97 25 53	2292	98 58 22	2212	100 30 26	2234	102 2 2	2258
	Fomalhaut W.	66 35 51	2260	68 22 49	2266	70 9 38	2273	71 56 17	2281
	Jupiter W.	59 14 16	2056	61 6 23	2066	62 58 14	2077	64 49 48	2090
	α Pegasi W.	49 41 15	2773	51 16 18	2747	52 51 55	2737	54 27 59	2710
	Pollux E.	74 12 22	2063	72 20 26	2075	70 28 48	2086	68 37 28	2098
	Regulus E.	110 29 21	2076	108 37 45	2087	106 46 26	2098	104 55 24	2110
19	Fomalhaut W.	80 46 3	2237	82 31 9	2250	84 15 55	2265	86 0 20	2281
	Jupiter W.	74 2 46	2157	75 52 18	2173	77 41 26	2188	79 30 11	2205
	α Pegasi W.	62 32 35	2672	64 9 53	2671	65 47 12	2673	67 24 28	2677
	Pollux E.	59 25 44	2168	57 36 28	2184	55 47 36	2200	53 59 8	2216
	Regulus E.	95 45 3	2178	93 56 2	2194	92 7 25	2209	90 19 11	2225
20	Fomalhaut W.	94 36 31	2468	96 18 29	2487	98 0 0	2507	99 41 3	2527
	Jupiter W.	88 27 42	2291	90 13 54	2309	91 59 40	2328	93 44 59	2346
	α Pegasi W.	75 28 48	2719	77 5 3	2731	78 41 2	2744	80 16 43	2759
	α Arietis W.	31 52 54	2226	33 31 13	2217	35 9 45	2211	36 48 25	2208
	Pollux E.	45 3 6	2304	43 17 12	2323	41 31 46	2349	39 46 48	2361
	Regulus E.	81 24 11	2312	79 38 29	2331	77 53 14	2349	76 6 26	2367
	Sun E.	139 53 43	2624	138 15 21	2643	136 37 25	2662	134 59 53	2681

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
12	Aldebaran E.	111° 56' 20"	2298	110° 10' 17"	2292	108° 23' 51"	2266	106° 37' 1"	2249
13	Sun W.	129 32 5	2461	131 14 13	2448	132 56 40	2434	134 39 26	2422
	Antares W.	81 29 22	2156	83 18 56	2142	85 8 51	2130	86 59 5	2117
	α Arietis E.	67 31 5	2258	65 44 3	2247	63 56 45	2237	62 9 13	2229
	Aldebaran E.	97 37 7	2176	95 48 3	2163	93 58 39	2149	92 8 55	2137
14	Antares W.	96 14 48	2062	98 6 46	2052	99 58 59	2044	101 51 25	2036
	α Aquilæ W.	54 51 20	2385	56 13 54	2318	57 37 45	2256	59 2 48	2200
	α Arietis E.	53 8 56	2203	51 20 33	2201	49 32 7	2202	47 43 42	2203
	Aldebaran E.	82 55 44	2083	81 4 18	2073	79 12 37	2064	77 20 43	2057
15	Antares W.	111 16 21	2006	113 9 46	2002	115 3 17	1999	116 56 53	1997
	α Aquilæ W.	66 22 52	2289	67 53 18	2259	69 24 22	2232	70 56 0	2208
	Fomalhaut W.	31 41 33	2656	33 19 12	2588	34 58 23	2531	36 38 53	2482
	α Arietis E.	38 43 25	2250	36 56 12	2269	35 9 27	2293	33 23 17	2322
	Aldebaran E.	67 58 39	2030	66 5 51	2026	64 12 58	2025	62 20 2	2023
	Pollux E.	112 1 5	2001	110 7 32	1997	108 13 53	1993	106 20 8	1991
16	α Aquilæ W.	78 40 37	2231	80 14 25	2222	81 48 23	2218	83 22 27	2215
	Fomalhaut W.	45 15 38	2296	47 1 0	2208	48 46 48	2223	50 32 58	2220
	JUPITER W.	36 34 53	1993	38 28 39	1993	40 22 25	1994	42 16 9	1996
	Aldebaran E.	52 55 17	2030	51 2 30	2035	49 9 51	2041	47 17 20	2048
	Pollux E.	96 50 46	1989	94 56 54	1991	93 3 6	1994	91 9 22	1997
17	α Aquilæ W.	91 12 42	2236	92 46 23	2246	94 19 51	2259	95 53 2	2275
	Fomalhaut W.	59 27 17	2252	61 14 27	2251	63 1 38	2253	64 48 47	2256
	JUPITER W.	51 43 26	2021	53 36 27	2028	55 29 17	2037	57 21 54	2046
	α Pegasi W.	43 28 58	2233	45 0 35	2283	46 33 16	2240	48 6 52	2204
	Aldebaran E.	37 58 7	2101	36 7 10	2116	34 16 36	2134	32 26 29	2155
	Pollux E.	81 42 30	2027	79 49 38	2035	77 56 59	2044	76 4 33	2053
18	α Aquilæ W.	103 33 8	2284	105 3 41	2313	106 33 38	2344	108 2 56	2378
	Fomalhaut W.	73 42 44	2291	75 28 57	2300	77 14 56	2312	79 0 38	2324
	JUPITER W.	66 41 3	2102	68 31 59	2115	70 22 36	2128	72 12 52	2143
	α Pegasi W.	56 4 26	2295	57 41 12	2336	59 18 11	2278	60 55 20	2274
	Pollux E.	66 46 26	2111	64 55 44	2125	63 5 23	2139	61 15 23	2153
	Regulus E.	103 4 40	2122	101 14 15	2136	99 24 10	2149	97 34 26	2163
19	Fomalhaut W.	87 44 22	2297	89 28 1	2414	91 11 16	2431	92 54 6	2449
	JUPITER W.	81 18 31	2221	83 6 27	2238	84 53 58	2256	86 41 3	2273
	α Pegasi W.	69 1 39	2283	70 38 42	2280	72 15 36	2298	73 52 18	2307
	Pollux E.	52 11 4	2233	50 23 26	2250	48 36 13	2268	46 49 26	2286
	Regulus E.	88 31 20	2241	86 43 54	2259	84 56 54	2276	83 10 19	2294
20	Fomalhaut W.	101 21 38	2548	103 1 44	2569	104 41 21	2591	106 20 28	2614
	JUPITER W.	95 29 51	2265	97 14 16	2284	98 58 14	2403	100 41 44	2422
	α Pegasi W.	81 52 5	2774	83 27 7	2789	85 1 49	2807	86 36 8	2825
	α Arietis W.	38 27 9	2208	40 5 53	2210	41 44 34	2215	43 23 9	2220
	Pollux E.	38 2 17	2230	36 18 14	2401	34 34 40	2420	32 51 34	2440
	Regulus E.	74 24 4	2287	72 40 10	2405	70 56 43	2425	69 13 44	2445
	Sun E.	133 22 48	2701	131 46 9	2720	130 9 56	2741	128 34 10	2761

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
21	Fomalhaut W.	107° 59' 4"	2636	109° 37' 10"	2660	111° 14' 44"	2683	112° 51' 47"	2707
	Jupiter W.	102 24 47	2442	104 7 22	2461	105 49 30	2480	107 31 11	2499
	α Pegasi W.	88 10 4	2643	89 43 36	2662	91 16 44	2681	92 49 27	2701
	α Arietis W.	45 1 37	2628	46 39 54	2635	48 18 0	2646	49 55 52	2658
	Pollux E.	31 8 56	2460	29 26 47	2462	27 45 8	2509	26 3 58	2524
	Regulus E.	67 31 13	2464	65 49 9	2464	64 7 33	2503	62 26 24	2522
	Sun E.	126 58 51	2781	125 23 58	2681	123 49 32	2621	122 15 32	2642
22	α Pegasi W.	100 26 21	3011	101 56 20	3034	103 25 50	3059	104 54 50	3082
	α Arietis W.	58 1 2	2734	59 37 10	2736	61 12 59	2753	62 48 29	2766
	Aldebaran W.	27 20 16	2798	28 56 19	2732	30 32 16	2740	32 8 3	2749
	Regulus E.	54 7 27	2621	52 29 0	2640	50 51 0	2680	49 13 26	2679
	Sun E.	114 32 3	2942	113 0 38	2962	111 29 38	2981	109 59 2	3001
23	α Pegasi W.	112 12 12	3014	113 38 4	3042	115 3 23	3071	116 28 8	3101
	α Arietis W.	70 41 13	2641	72 14 48	2655	73 48 4	2669	75 21 2	2684
	Aldebaran W.	40 3 38	2605	41 37 59	2617	43 12 5	2630	44 45 55	2642
	Regulus E.	41 12 1	2775	39 37 0	2793	38 2 23	2812	36 28 11	2831
	Sun E.	102 31 57	3094	101 3 40	3112	99 35 45	3129	98 8 11	3146
24	α Arietis W.	83 1 20	2953	84 32 32	2966	86 3 27	2978	87 34 7	2991
	Aldebaran W.	52 31 1	2904	54 3 15	2916	55 35 14	2927	57 6 59	2939
	Regulus E.	28 43 22	2929	27 11 40	2950	25 40 25	2973	24 9 38	2997
	Sun E.	90 55 17	3225	89 29 38	3240	88 4 16	3254	86 39 11	3269
25	α Arietis W.	95 3 39	3049	96 32 51	3060	98 1 50	3070	99 30 36	3080
	Aldebaran W.	64 42 15	2990	66 12 40	3000	67 42 53	3009	69 12 55	3017
	Pollux W.	20 26 31	2985	21 57 3	2991	23 27 27	2998	24 57 42	3005
	Sun E.	79 37 38	3330	78 14 1	3341	76 50 37	3352	75 27 26	3362
26	α Arietis W.	106 51 31	3126	108 19 9	3134	109 46 37	3143	111 13 55	3150
	Aldebaran W.	76 40 36	3055	78 9 41	3060	79 38 39	3068	81 7 30	3072
	Pollux W.	32 26 53	3037	33 56 20	3043	35 25 40	3048	36 54 53	3053
	Sun E.	68 34 10	3405	67 11 59	3412	65 49 56	3419	64 28 1	3425
27	Aldebaran W.	88 30 12	3093	89 58 30	3097	91 26 43	3100	92 54 53	3103
	Pollux W.	44 19 35	3073	45 48 18	3076	47 16 57	3078	48 45 33	3081
	Sun E.	57 40 1	3450	56 18 41	3454	54 57 25	3456	53 36 12	3460
28	Aldebaran W.	100 15 2	3110	101 42 59	3110	103 10 56	3111	104 38 52	3112
	Pollux W.	56 8 2	3086	57 36 29	3087	59 4 55	3087	60 33 21	3086
	Regulus W.	20 16 38	3001	21 42 46	3188	23 9 10	3175	24 35 49	3165
	Sun E.	46 50 48	3468	45 29 48	3468	44 8 48	3468	42 47 48	3468
29	Aldebaran W.	111 58 35	3108	113 26 35	3107	114 54 36	3105	116 22 40	3103
	Pollux W.	67 55 49	3078	69 24 25	3077	70 53 3	3074	72 21 44	3071
	Regulus W.	31 51 44	3127	33 19 21	3121	34 47 5	3115	36 14 56	3110
	Sun E.	36 2 38	3463	34 41 32	3460	33 20 23	3458	31 59 12	3455
30	Pollux W.	79 46 6	3054	81 15 12	3051	82 44 22	3046	84 13 38	3042
	Regulus W.	43 35 53	3082	45 4 25	3077	46 33 3	3070	48 1 49	3065
	Sun E.	25 12 31	3440	23 51 0	3438	22 29 26	3434	21 7 48	3431

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
21	Fomalhaut W.	114° 28' 17"	2732	116° 4' 15"	2756	117° 39' 40"	2782	119° 14' 31"	2808
	JUPITER W.	109 12 25	2519	110 53 12	2538	112 33 32	2557	114 13 26	2577
	α Pegasi W.	94 21 44	2922	95 53 35	2944	97 24 58	2965	98 55 54	2989
	α Arietis W.	51 33 28	2670	53 10 48	2683	54 47 51	2696	56 24 36	2709
	Pollux E.	24 23 18	2545	22 43 8	2568	21 3 29	2591	19 24 22	2615
	Regulus E.	60 45 42	2542	59 5 27	2562	57 25 40	2582	55 46 20	2601
	Sun E.	120 41 58	2862	119 8 50	2883	117 36 9	2902	116 3 53	2922
22	α Pegasi W.	106 23 21	3108	107 51 21	3133	109 18 50	3160	110 45 47	3187
	α Arietis W.	64 23 41	2782	65 58 33	2796	67 33 6	2811	69 7 19	2826
	Aldebaran W.	33 43 38	2759	35 19 0	2769	36 54 8	2781	38 29 1	2793
	Regulus E.	47 36 18	2698	45 59 36	2717	44 23 19	2736	42 47 27	2756
	Sun E.	108 28 50	3020	106 59 2	3039	105 29 37	3058	104 0 36	3076
23	α Pegasi W.	117 52 18	3323	119 15 52	3364	120 38 50	3396	122 1 11	3430
	α Arietis W.	76 53 41	2898	78 26 2	2912	79 58 6	2926	81 29 52	2940
	Aldebaran W.	46 19 28	2855	47 52 45	2867	49 25 46	2880	50 58 31	2891
	Regulus E.	34 54 25	2851	33 21 1	2869	31 48 3	2889	30 15 30	2909
	Sun E.	96 40 57	3163	95 14 3	3179	93 47 29	3195	92 21 14	3210
24	α Arietis W.	89 4 31	3003	90 34 40	3015	92 4 34	3026	93 34 14	3039
	Aldebaran W.	58 38 29	2950	60 9 45	2960	61 40 48	2970	63 11 38	2981
	Regulus E.	22 39 22	3023	21 9 38	3052	19 40 29	3082	18 11 58	3118
	Sun E.	85 14 23	3262	83 49 50	3284	82 25 32	3306	81 1 28	3319
25	α Arietis W.	100 59 10	3090	102 27 32	3099	103 55 43	3109	105 23 42	3117
	Aldebaran W.	70 42 47	3026	72 12 28	3033	73 42 0	3041	75 11 22	3047
	Pollux W.	26 27 49	3019	27 57 47	3018	29 27 37	3025	30 57 19	3031
	Sun E.	74 4 26	3372	72 41 37	3381	71 18 59	3389	69 56 30	3397
26	α Arietis W.	112 41 4	3158	114 8 3	3165	115 34 54	3173	117 1 36	3179
	Aldebaran W.	82 36 14	3077	84 4 52	3082	85 33 24	3087	87 1 50	3090
	Pollux W.	38 24 0	3058	39 53 1	3062	41 21 57	3066	42 50 48	3069
	Sun E.	63 6 13	3431	61 44 31	3437	60 22 56	3441	59 1 26	3446
27	Aldebaran W.	94 22 59	3105	95 51 3	3107	97 19 4	3108	98 47 4	3110
	Pollux W.	50 14 6	3082	51 42 37	3083	53 11 7	3085	54 39 35	3086
	Sun E.	52 15 3	3462	50 53 56	3464	49 32 52	3465	48 11 49	3467
28	Aldebaran W.	106 6 47	3111	107 34 43	3111	109 2 39	3110	110 30 37	3110
	Pollux W.	62 1 48	3085	63 30 16	3084	64 58 45	3082	66 27 16	3081
	Regulus W.	26 2 40	3156	27 29 42	3148	28 56 54	3140	30 24 15	3134
	Sun E.	41 26 48	3467	40 5 47	3466	38 44 45	3465	37 23 42	3464
29	Aldebaran W.	117 50 46	3101	119 18 54	3099	120 47 5	3097	122 15 18	3095
	Pollux W.	73 50 29	3069	75 19 17	3065	76 48 9	3062	78 17 5	3058
	Regulus W.	37 42 54	3104	39 10 59	3099	40 39 10	3093	42 7 28	3087
	Sun E.	30 37 58	3453	29 16 41	3450	27 55 21	3447	26 33 58	3444
30	Pollux W.	85 42 59	3037	87 12 26	3033	88 41 58	3027	90 11 37	3022
	Regulus W.	49 30 41	3060	50 59 40	3053	52 28 47	3047	53 58 1	3041
	Sun E.	19 46 6	3428	18 24 21	3424	17 2 32	3423	15 40 41	3420

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	[°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
SUN.	1	14 25 34.58	9.799	S. 14 26 10.8	-48.14	16 9.71	66.93	16 19.52	0.057
Mon.	2	14 29 30.16	9.833	14 45 19.4	47.56	16 9.96	67.05	16 20.49	0.023
Tues.	3	14 33 26.55	9.867	15 4 13.6	46.95	16 10.21	67.16	16 20.65	0.010
Wed.	4	14 37 23.75	9.901	15 22 52.9	-46.32	16 10.46	67.28	16 20.01	0.044
Thur.	5	14 41 21.76	9.934	15 41 17.0	45.68	16 10.71	67.40	16 18.56	0.077
Frid.	6	14 45 20.59	9.968	15 59 25.4	45.02	16 10.95	67.52	16 16.29	0.111
Sat.	7	14 49 20.24	10.002	16 17 17.7	-44.34	16 11.19	67.64	16 13.20	0.145
SUN.	8	14 53 20.72	10.036	16 34 53.5	43.64	16 11.43	67.76	16 9.29	0.180
Mon.	9	14 57 22.02	10.070	16 52 12.4	42.93	16 11.67	67.88	16 4.55	0.214
Tues.	10	15 1 24.16	10.106	17 9 14.0	-42.20	16 11.90	68.00	15 58.98	0.249
Wed.	11	15 5 27.13	10.141	17 25 57.9	41.45	16 12.14	68.12	15 52.58	0.283
Thur.	12	15 9 30.94	10.176	17 42 23.7	40.69	16 12.36	68.24	15 45.35	0.318
Frid.	13	15 13 35.58	10.211	17 58 31.1	-39.91	16 12.58	68.36	15 37.29	0.353
Sat.	14	15 17 41.06	10.246	18 14 19.5	39.11	16 12.80	68.48	15 28.39	0.388
SUN.	15	15 21 47.38	10.281	18 29 48.7	38.30	16 13.02	68.60	15 18.66	0.423
Mon.	16	15 25 54.54	10.316	18 44 58.4	-37.47	16 13.23	68.71	15 8.09	0.458
Tues.	17	15 30 2.55	10.351	18 59 48.1	36.63	16 13.43	68.83	14 56.66	0.493
Wed.	18	15 34 11.40	10.386	19 14 17.4	35.78	16 13.63	68.94	14 44.40	0.528
Thur.	19	15 38 21.09	10.421	19 28 26.1	-34.91	16 13.83	69.06	14 31.31	0.563
Frid.	20	15 42 31.61	10.455	19 42 13.8	34.03	16 14.03	69.17	14 17.39	0.597
Sat.	21	15 46 42.96	10.489	19 55 40.0	33.13	16 14.22	69.28	14 2.64	0.631
SUN.	22	15 50 55.14	10.523	20 8 44.4	-32.23	16 14.40	69.39	13 47.06	0.665
Mon.	23	15 55 8.13	10.557	20 21 26.8	31.30	16 14.58	69.50	13 30.67	0.699
Tues.	24	15 59 21.91	10.591	20 33 46.8	30.35	16 14.75	69.61	13 13.49	0.732
Wed.	25	16 3 36.49	10.624	20 45 44.0	-29.39	16 14.92	69.72	12 55.52	0.765
Thur.	26	16 7 51.85	10.656	20 57 18.1	28.42	16 15.09	69.82	12 36.77	0.797
Frid.	27	16 12 7.96	10.687	21 8 28.6	27.43	16 15.26	69.92	12 17.27	0.828
Sat.	28	16 16 24.80	10.717	21 19 15.1	-26.43	16 15.42	70.02	11 57.04	0.858
SUN.	29	16 20 42.37	10.746	21 29 37.5	25.42	16 15.58	70.11	11 36.09	0.887
Mon.	30	16 25 0.64	10.775	21 39 35.4	24.39	16 15.74	70.20	11 14.43	0.916
Tues.	31	16 29 19.58	10.802	S. 21 49 8.5	-23.35	16 15.89	70.29	10 52.11	0.943

NOTE — The mean time of semidiameter passing may be found by subtracting 0.19 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
SUN.	1	^h 14 ^m 25 ^s 37.26	9.800	S. 14° 26' 23.9"	-48.14	^m 16 ^s 19.53	0.057	^h 14 ^m 41 ^s 56.79
Mon.	2	14 29 32.85	9.834	14 45 32.3	47.55	16 20.49	0.023	14 45 53.34
Tues.	3	14 33 29.25	9.867	15 4 26.3	46.94	16 20.64	0.010	14 49 49.89
Wed.	4	14 37 26.46	9.901	15 23 5.5	-46.31	16 19.99	0.044	14 53 46.45
Thur.	5	14 41 24.48	9.934	15 41 29.4	45.67	16 18.53	0.077	14 57 43.01
Frid.	6	14 45 23.31	9.968	15 59 37.6	45.01	16 16.25	0.111	15 1 39.56
Sat.	7	14 49 22.96	10.002	16 17 29.7	-44.33	16 13.15	0.145	15 5 36.11
SUN.	8	14 53 23.44	10.037	16 35 5.3	43.63	16 9.23	0.180	15 9 32.67
Mon.	9	14 57 24.74	10.071	16 52 23.9	42.92	16 4.49	0.214	15 13 29.23
Tues.	10	15 1 26.87	10.106	17 9 25.3	-42.19	15 58.91	0.249	15 17 25.78
Wed.	11	15 5 29.84	10.141	17 26 8.9	41.44	15 52.50	0.283	15 21 22.34
Thur.	12	15 9 33.63	10.175	17 42 34.4	40.68	15 45.26	0.318	15 25 18.89
Frid.	13	15 13 38.26	10.210	17 58 41.4	-39.90	15 37.19	0.353	15 29 15.45
Sat.	14	15 17 43.72	10.245	18 14 29.6	39.10	15 28.29	0.388	15 33 12.01
SUN.	15	15 21 50.02	10.280	18 29 58.5	38.29	15 18.55	0.423	15 37 8.57
Mon.	16	15 25 57.16	10.315	18 45 7.8	-37.46	15 7.97	0.458	15 41 5.13
Tues.	17	15 30 5.14	10.350	18 59 57.2	36.62	14 56.54	0.493	15 45 1.68
Wed.	18	15 34 13.96	10.385	19 14 26.2	35.77	14 44.27	0.528	15 48 58.23
Thur.	19	15 38 23.62	10.420	19 28 34.6	-34.90	14 31.17	0.563	15 52 54.79
Frid.	20	15 42 34.11	10.454	19 42 21.9	34.02	14 17.24	0.597	15 56 51.35
Sat.	21	15 46 45.42	10.488	19 55 47.8	33.12	14 2.48	0.631	16 0 47.90
SUN.	22	15 50 57.56	10.522	20 8 51.9	-32.21	13 46.90	0.665	16 4 44.46
Mon.	23	15 55 10.51	10.556	20 21 33.8	31.28	13 30.51	0.699	16 8 41.02
Tues.	24	15 59 24.25	10.589	20 33 53.4	30.34	13 13.33	0.732	16 12 37.58
Wed.	25	16 3 38.78	10.622	20 45 50.3	-29.38	12 55.36	0.765	16 16 34.14
Thur.	26	16 7 54.09	10.654	20 57 24.0	28.41	12 36.61	0.797	16 20 30.70
Frid.	27	16 12 10.15	10.685	21 8 34.1	27.42	12 17.10	0.828	16 24 27.25
Sat.	28	16 16 26.94	10.715	21 19 20.3	-26.42	11 56.87	0.858	16 28 23.81
SUN.	29	16 20 44.45	10.744	21 29 42.4	25.41	11 35.92	0.887	16 32 20.37
Mon.	30	16 25 2.66	10.773	21 39 40.0	24.38	11 14.26	0.916	16 36 16.92
Tues.	31	16 29 21.54	10.800	S. 21 49 12.7	-23.34	10 51.94	0.943	16 40 13.48

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	305	218° 47' 55.5	47' 29.1	150.27	+ 0.08	9.9965327	-46.5	^h 9 ^m 16 ^s 31.79
2	306	219 48 3.0	47 36.5	150.35	- 0.05	9.9964211	46.4	9 12 35.88
3	307	220 48 12.3	47 45.7	150.42	0.18	9.9963100	46.2	9 8 39.97
4	308	221 48 23.3	47 56.5	150.49	- 0.31	9.9961994	-46.0	9 4 44.06
5	309	222 48 35.8	48 8.9	150.56	0.43	9.9960894	45.7	9 0 48.15
6	310	223 48 49.9	48 22.8	150.62	0.53	9.9959802	45.4	8 56 52.24
7	311	224 49 5.6	48 38.4	150.68	- 0.60	9.9958718	-45.0	8 52 56.34
8	312	225 49 22.8	48 55.5	150.74	0.65	9.9957643	44.6	8 49 0.43
9	313	226 49 41.4	49 14.0	150.80	0.67	9.9956580	44.0	8 45 4.52
10	314	227 50 1.4	49 33.8	150.86	- 0.66	9.9955531	-43.4	8 41 8.61
11	315	228 50 22.9	49 55.1	150.92	0.62	9.9954497	42.7	8 37 12.70
12	316	229 50 45.7	50 17.8	150.98	0.55	9.9953479	42.0	8 33 16.79
13	317	230 51 10.0	50 41.9	151.04	- 0.46	9.9952479	-41.2	8 29 20.88
14	318	231 51 35.8	51 7.5	151.10	0.35	9.9951498	40.4	8 25 24.97
15	319	232 52 3.0	51 34.5	151.16	0.22	9.9950538	39.6	8 21 29.05
16	320	233 52 31.7	52 3.1	151.23	- 0.09	9.9949598	-38.9	8 17 33.14
17	321	234 53 2.0	52 33.3	151.29	+ 0.04	9.9948679	38.0	8 13 37.23
18	322	235 53 33.9	53 5.1	151.36	0.16	9.9947780	37.1	8 9 41.32
19	323	236 54 7.5	53 38.5	151.43	+ 0.27	9.9946902	-36.2	8 5 45.41
20	324	237 54 42.7	54 13.5	151.50	0.36	9.9946045	35.3	8 1 49.50
21	325	238 55 19.6	54 50.2	151.57	0.42	9.9945207	34.5	7 57 53.59
22	326	239 55 58.1	55 28.6	151.64	+ 0.45	9.9944389	-33.7	7 53 57.68
23	327	240 56 38.3	56 8.6	151.71	0.45	9.9943590	32.9	7 50 1.76
24	328	241 57 20.2	56 50.3	151.78	0.43	9.9942809	32.2	7 46 5.85
25	329	242 58 3.8	57 33.7	151.85	+ 0.38	9.9942043	-31.6	7 42 9.94
26	330	243 58 49.0	58 18.7	151.92	0.30	9.9941292	31.0	7 38 14.03
27	331	244 59 35.7	59 5.2	151.98	0.20	9.9940555	30.4	7 34 18.12
28	332	245 60 23.8	59 53.2	152.04	+ 0.08	9.9939832	-29.9	7 30 22.21
29	333	247 1 13.4	0 42.6	152.10	- 0.05	9.9939122	29.3	7 26 26.30
30	334	248 2 4.3	1 33.3	152.15	0.18	9.9938425	28.8	7 22 30.39
31	335	249 2 56.4	2 25.2	152.20	- 0.31	9.9937740	-28.2	7 18 34.47
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								Diff. for 1 Hour, —9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	14' 53.9	14' 56.5	54' 33.9	+0.77	54' 43.6	+0.86	h m δ	m	d 29.5
2	14 59.4	15 2.5	54 54.1	0.91	55 5.5	0.99	0 17.3	1.88	0.7
3	15 5.8	15 9.3	55 17.7	1.05	55 30.6	1.11	1 4.0	2.02	1.7
4	15 13.1	15 17.0	55 44.3	+1.17	55 58.7	+1.24	1 54.2	2.19	2.7
5	15 21.1	15 25.5	56 13.9	1.30	56 29.8	1.36	2 47.6	2.28	3.7
6	15 30.0	15 34.7	56 46.4	1.42	57 3.7	1.47	3 43.6	2.34	4.7
7	15 39.6	15 44.6	57 21.6	+1.52	57 40.2	+1.57	4 40.5	2.36	5.7
8	15 49.8	15 55.0	57 59.2	1.60	58 18.4	1.61	5 36.8	2.31	6.7
9	16 0.3	16 5.5	58 37.7	1.61	58 56.9	1.57	6 31.5	2.24	7.7
10	16 10.5	16 15.3	59 15.4	+1.50	59 32.9	+1.41	7 24.2	2.16	8.7
11	16 19.7	16 23.6	59 49.0	1.27	60 3.3	1.10	8 15.3	2.11	9.7
12	16 26.8	16 29.3	60 15.2	0.88	60 24.3	0.62	9 5.7	2.11	10.7
13	16 30.9	16 31.5	60 30.1	+0.34	60 32.5	+0.04	9 56.6	2.15	11.7
14	16 31.1	16 29.7	60 31.0	-0.29	60 25.7	-0.61	10 49.0	2.23	12.7
15	16 27.2	16 23.6	60 16.4	0.93	60 3.4	1.23	11 43.8	2.34	13.7
16	16 19.1	16 13.8	59 47.0	-1.50	59 27.5	-1.74	12 41.3	2.43	14.7
17	16 7.8	16 1.3	59 5.4	1.93	58 41.3	2.07	13 40.5	2.47	15.7
18	15 54.3	15 47.2	58 15.8	2.16	57 49.6	2.20	14 39.8	2.43	16.7
19	15 40.0	15 32.8	57 23.1	-2.20	56 56.9	-2.16	15 37.3	2.32	17.7
20	15 25.9	15 19.4	56 31.5	2.07	56 7.4	1.94	16 31.2	2.16	18.7
21	15 13.3	15 7.7	55 45.0	1.79	55 24.5	1.62	17 21.0	1.99	19.7
22	15 2.7	14 58.3	55 6.2	-1.44	54 50.2	-1.23	18 6.9	1.85	20.7
23	14 54.7	14 51.7	54 36.8	1.01	54 25.9	0.80	18 49.7	1.74	21.7
24	14 49.5	14 47.9	54 17.6	0.59	54 11.9	-0.37	19 30.3	1.67	22.7
25	14 47.1	14 46.9	54 8.8	-0.16	54 8.2	+0.05	20 9.8	1.65	23.7
26	14 47.4	14 48.4	54 9.9	+0.24	54 13.8	0.41	20 49.4	1.67	24.7
27	14 50.1	14 52.2	54 19.8	0.58	54 27.6	0.73	21 30.1	1.74	25.7
28	14 54.8	14 57.7	54 37.1	+0.85	54 48.0	+0.97	22 13.0	1.85	26.7
29	15 1.1	15 4.7	55 0.2	1.06	55 13.4	1.13	22 58.9	1.99	27.7
30	15 8.4	15 12.4	55 27.3	1.19	55 41.8	1.23	23 48.5	2.14	28.7
31	15 16.4	15 20.5	55 56.7	+1.25	56 11.7	+1.26	δ		0.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	14 16 20.13	1.8806	S. 11° 43' 7.3"	12.405	0	15 51 44.93	2.1096	S. 20° 34' 7.4"	9.317
1	14 18 13.08	1.8843	11 55 30.4	12.364	1	15 53 51.67	2.1151	20 43 23.7	9.236
2	14 20 6.25	1.8881	12 7 51.0	12.323	2	15 55 58.75	2.1207	20 52 34.5	9.133
3	14 21 59.65	1.8919	12 20 9.1	12.281	3	15 58 6.16	2.1262	21 1 39.7	9.040
4	14 23 53.28	1.8958	12 32 24.7	12.238	4	16 0 13.90	2.1317	21 10 39.3	8.946
5	14 25 47.15	1.8998	12 44 37.6	12.193	5	16 2 21.97	2.1373	21 19 33.2	8.850
6	14 27 41.26	1.9038	12 56 47.8	12.148	6	16 4 30.38	2.1429	21 28 21.3	8.753
7	14 29 35.61	1.9078	13 8 55.3	12.102	7	16 6 39.12	2.1484	21 37 3.6	8.656
8	14 31 30.20	1.9119	13 21 0.0	12.054	8	16 8 48.19	2.1539	21 45 40.0	8.557
9	14 33 25.04	1.9161	13 33 1.8	12.006	9	16 10 57.59	2.1595	21 54 10.5	8.457
10	14 35 20.13	1.9203	13 45 0.7	11.957	10	16 13 7.33	2.1651	22 2 34.9	8.356
11	14 37 15.48	1.9246	13 56 56.6	11.907	11	16 15 17.40	2.1706	22 10 53.2	8.254
12	14 39 11.08	1.9288	14 8 49.5	11.856	12	16 17 27.80	2.1761	22 19 5.4	8.151
13	14 41 6.94	1.9332	14 20 39.3	11.804	13	16 19 38.53	2.1817	22 27 11.3	8.046
14	14 43 3.06	1.9376	14 32 26.0	11.751	14	16 21 49.60	2.1872	22 35 10.9	7.941
15	14 44 59.45	1.9421	14 44 9.4	11.696	15	16 24 1.00	2.1927	22 43 4.2	7.834
16	14 46 56.11	1.9466	14 55 49.5	11.641	16	16 26 12.73	2.1982	22 50 51.0	7.726
17	14 48 53.04	1.9511	15 7 26.3	11.586	17	16 28 24.79	2.2037	22 58 31.3	7.617
18	14 50 50.24	1.9557	15 18 59.8	11.529	18	16 30 37.17	2.2091	23 6 5.1	7.507
19	14 52 47.72	1.9603	15 30 29.8	11.471	19	16 32 49.88	2.2146	23 13 32.2	7.396
20	14 54 45.48	1.9649	15 41 56.3	11.411	20	16 35 2.92	2.2201	23 20 52.6	7.284
21	14 56 43.51	1.9696	15 53 19.1	11.350	21	16 37 16.29	2.2255	23 28 6.3	7.171
22	14 58 41.83	1.9744	16 4 38.3	11.289	22	16 39 29.98	2.2308	23 35 13.1	7.056
23	15 0 40.44	1.9792	S. 16° 15' 53.8"	11.227	23	16 41 43.99	2.2362	S. 23° 42' 13.0"	6.941
MONDAY 2.					WEDNESDAY 4.				
0	15 2 39.34	1.9841	S. 16° 27' 5.5"	11.163	0	16 43 58.33	2.2416	S. 23° 49' 6.0"	6.894
1	15 4 38.53	1.9889	16 38 13.3	11.099	1	16 46 12.99	2.2469	23 55 51.9	6.796
2	15 6 38.01	1.9938	16 49 17.3	11.034	2	16 48 27.96	2.2521	24 2 30.7	6.697
3	15 8 37.79	1.9987	17 0 17.4	10.968	3	16 50 43.24	2.2573	24 9 2.4	6.598
4	15 10 37.86	2.0037	17 11 13.5	10.900	4	16 52 58.84	2.2626	24 15 26.9	6.497
5	15 12 38.24	2.0088	17 22 5.4	10.830	5	16 55 14.75	2.2679	24 21 44.1	6.395
6	15 14 38.92	2.0138	17 32 53.1	10.760	6	16 57 30.98	2.2731	24 27 53.9	6.292
7	15 16 39.90	2.0189	17 43 36.6	10.690	7	16 59 47.52	2.2781	24 33 56.3	6.189
8	15 18 41.19	2.0241	17 54 15.9	10.618	8	17 2 4.35	2.2830	24 39 51.3	6.083
9	15 20 42.79	2.0292	18 4 50.8	10.545	9	17 4 21.48	2.2880	24 45 38.7	5.977
10	15 22 44.70	2.0344	18 15 21.3	10.471	10	17 6 38.91	2.2930	24 51 18.5	5.869
11	15 24 46.92	2.0397	18 25 47.3	10.396	11	17 8 56.64	2.2979	24 56 50.7	5.759
12	15 26 49.46	2.0449	18 36 8.8	10.320	12	17 11 14.66	2.3027	25 2 15.2	5.648
13	15 28 52.31	2.0502	18 46 25.7	10.242	13	17 13 32.97	2.3076	25 7 31.9	5.533
14	15 30 55.48	2.0555	18 56 37.9	10.163	14	17 15 51.57	2.3124	25 12 40.8	5.419
15	15 32 58.97	2.0608	19 6 45.3	10.083	15	17 18 10.46	2.3172	25 17 41.8	5.305
16	15 35 2.78	2.0662	19 16 47.9	10.002	16	17 20 29.63	2.3218	25 22 34.8	5.191
17	15 37 6.91	2.0715	19 26 45.6	9.921	17	17 22 49.07	2.3264	25 27 19.8	5.077
18	15 39 11.36	2.0769	19 36 38.4	9.838	18	17 25 8.79	2.3309	25 31 56.8	4.963
19	15 41 16.14	2.0823	19 46 26.2	9.754	19	17 27 28.78	2.3353	25 36 25.7	4.849
20	15 43 21.24	2.0877	19 56 8.9	9.668	20	17 29 49.03	2.3398	25 40 46.4	4.737
21	15 45 26.67	2.0932	20 5 46.4	9.583	21	17 32 9.55	2.3442	25 44 58.9	4.623
22	15 47 32.43	2.0987	20 15 18.7	9.494	22	17 34 30.33	2.3484	25 49 3.1	4.509
23	15 49 38.52	2.1042	20 24 45.7	9.406	23	17 36 51.36	2.3526	25 52 59.0	4.395
24	15 51 44.93	2.1096	S. 20° 34' 7.4"	9.317	24	17 39 12.63	2.3568	S. 25° 56' 46.5"	4.281

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	17 ^h 39 ^m 12.63 ^s	2.3566	S. 25° 56' 46.5"	3.792	0	19 ^h 35 ^m 24.33 ^s	2.4471	S. 26° 2' 27.4"	3.625
1	17 41 34.15	2.3607	26 0 25.6	3.581	1	19 37 51.14	2.4466	25 58 45.2	3.788
2	17 43 55.92	2.3647	26 3 56.2	3.439	2	19 40 17.92	2.4460	25 54 53.5	3.940
3	17 46 17.92	2.3686	26 7 18.3	3.297	3	19 42 44.66	2.4452	25 50 52.4	4.097
4	17 48 40.15	2.3724	26 10 31.8	3.154	4	19 45 11.35	2.4444	25 46 41.9	4.253
5	17 51 2.61	2.3763	26 13 36.7	3.010	5	19 47 37.99	2.4435	25 42 22.0	4.409
6	17 53 25.29	2.3798	26 16 33.0	2.866	6	19 50 4.57	2.4424	25 37 52.8	4.565
7	17 55 48.19	2.3834	26 19 20.6	2.730	7	19 52 31.08	2.4413	25 33 14.2	4.722
8	17 58 11.30	2.3868	26 21 59.4	2.574	8	19 54 57.53	2.4402	25 28 26.2	4.878
9	18 0 34.61	2.3909	26 24 29.4	2.427	9	19 57 23.91	2.4390	25 23 28.9	5.033
10	18 2 58.12	2.3936	26 26 50.6	2.279	10	19 59 50.21	2.4376	25 18 22.3	5.188
11	18 5 21.84	2.3969	26 29 2.9	2.131	11	20 2 16.42	2.4361	25 13 6.4	5.343
12	18 7 45.75	2.4000	26 31 6.3	1.982	12	20 4 42.54	2.4346	25 7 41.2	5.497
13	18 10 9.84	2.4030	26 33 0.8	1.833	13	20 7 8.57	2.4330	25 2 6.8	5.650
14	18 12 34.11	2.4060	26 34 46.3	1.683	14	20 9 34.50	2.4313	24 56 23.2	5.802
15	18 14 58.56	2.4089	26 36 22.7	1.532	15	20 12 0.33	2.4296	24 50 30.5	5.955
16	18 17 23.18	2.4117	26 37 50.1	1.381	16	20 14 26.05	2.4277	24 44 28.6	6.107
17	18 19 47.96	2.4143	26 39 8.4	1.229	17	20 16 51.66	2.4258	24 38 17.6	6.259
18	18 22 12.89	2.4169	26 40 17.6	1.077	18	20 19 17.15	2.4238	24 31 57.5	6.410
19	18 24 37.98	2.4194	26 41 17.6	0.924	19	20 21 42.52	2.4217	24 25 28.4	6.560
20	18 27 3.22	2.4217	26 42 8.4	0.771	20	20 24 7.76	2.4197	24 18 50.3	6.711
21	18 29 28.59	2.4239	26 42 50.1	0.617	21	20 26 32.88	2.4176	24 12 3.1	6.861
22	18 31 54.09	2.4261	26 43 22.5	0.463	22	20 28 57.87	2.4153	24 5 7.0	7.009
23	18 34 19.73	2.4283	S. 26 43 45.7	0.309	23	20 31 22.72	2.4130	S. 23 58 2.0	7.157
FRIDAY 6.					SUNDAY 8.				
0	18 36 45.49	2.4309	S. 26 43 59.6	- 0.154	0	20 33 47.43	2.4107	S. 23 50 48.1	7.305
1	18 39 11.36	2.4321	26 44 4.2	+ 0.002	1	20 36 12.00	2.4082	23 43 25.4	7.452
2	18 41 37.34	2.4339	26 43 59.4	0.157	2	20 38 36.42	2.4057	23 35 53.9	7.598
3	18 44 3.43	2.4357	26 43 45.3	0.313	3	20 41 0.69	2.4039	23 28 13.6	7.744
4	18 46 29.62	2.4372	26 43 21.8	0.470	4	20 43 24.81	2.4007	23 20 24.6	7.888
5	18 48 55.90	2.4387	26 42 48.9	0.626	5	20 45 48.77	2.3980	23 12 27.0	8.031
6	18 51 22.26	2.4400	26 42 6.7	0.782	6	20 48 12.57	2.3953	23 4 20.9	8.174
7	18 53 48.70	2.4413	26 41 15.1	0.939	7	20 50 36.21	2.3926	22 56 6.2	8.317
8	18 56 15.22	2.4425	26 40 14.0	1.097	8	20 52 59.68	2.3898	22 47 42.9	8.459
9	18 58 41.80	2.4435	26 39 3.4	1.255	9	20 55 22.99	2.3871	22 39 11.1	8.600
10	19 1 8.44	2.4445	26 37 43.4	1.413	10	20 57 46.13	2.3843	22 30 30.9	8.740
11	19 3 35.14	2.4453	26 36 13.9	1.571	11	21 0 9.10	2.3813	22 21 42.3	8.878
12	19 6 1.88	2.4460	26 34 34.9	1.729	12	21 2 31.89	2.3783	22 12 45.5	9.016
13	19 8 28.66	2.4467	26 32 46.4	1.887	13	21 4 54.50	2.3754	22 3 40.4	9.154
14	19 10 55.48	2.4473	26 30 48.5	2.044	14	21 7 16.94	2.3725	21 54 27.0	9.291
15	19 13 22.34	2.4478	26 28 41.1	2.202	15	21 9 39.20	2.3695	21 45 5.5	9.426
16	19 15 49.22	2.4481	26 26 24.2	2.361	16	21 12 1.28	2.3664	21 35 35.9	9.560
17	19 18 16.11	2.4483	26 23 57.8	2.519	17	21 14 23.17	2.3633	21 25 58.3	9.693
18	19 20 43.01	2.4484	26 21 21.9	2.678	18	21 16 44.88	2.3602	21 16 12.7	9.826
19	19 23 9.92	2.4485	26 18 36.5	2.836	19	21 19 6.40	2.3572	21 6 19.2	9.958
20	19 25 36.83	2.4484	26 15 41.6	2.993	20	21 21 27.74	2.3541	20 56 17.8	10.089
21	19 28 3.73	2.4482	26 12 37.3	3.151	21	21 23 48.89	2.3509	20 46 8.5	10.219
22	19 30 30.62	2.4480	26 9 23.5	3.309	22	21 26 9.85	2.3478	20 35 51.5	10.348
23	19 32 57.49	2.4476	26 6 0.2	3.467	23	21 28 30.62	2.3447	20 25 26.8	10.476
24	19 35 24.33	2.4471	S. 26 2 27.4	3.625	24	21 30 51.21	2.3415	S. 20 14 54.4	10.603

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	21 30 51.21	2.3415	S. 20 14 54.4	10.603	0	23 19 49.81	2.2119	S. 9 42 5.9	15.272
1	21 33 11.60	2.3383	20 4 14.5	10.728	1	23 22 2.47	2.2102	9 26 47.6	15.337
2	21 35 31.80	2.3351	19 53 27.1	10.853	2	23 24 15.04	2.2087	9 11 25.4	15.401
3	21 37 51.81	2.3319	19 42 32.2	10.977	3	23 26 27.52	2.2072	8 55 59.5	15.462
4	21 40 11.63	2.3287	19 31 29.9	11.099	4	23 28 39.91	2.2058	8 40 30.0	15.522
5	21 42 31.25	2.3254	19 20 20.3	11.220	5	23 30 52.22	2.2044	8 24 56.9	15.580
6	21 44 50.68	2.3222	19 9 3.5	11.340	6	23 33 4.44	2.2031	8 9 20.4	15.637
7	21 47 9.92	2.3191	18 57 39.5	11.459	7	23 35 16.59	2.2019	7 53 40.5	15.692
8	21 49 28.97	2.3159	18 46 8.4	11.577	8	23 37 28.67	2.2007	7 37 57.3	15.746
9	21 51 47.83	2.3128	18 34 30.2	11.695	9	23 39 40.67	2.1995	7 22 11.0	15.797
10	21 54 6.50	2.3096	18 22 45.0	11.811	10	23 41 52.61	2.1986	7 6 21.6	15.848
11	21 56 24.98	2.3064	18 10 52.9	11.925	11	23 44 4.50	2.1977	6 50 29.2	15.897
12	21 58 43.26	2.3032	17 58 54.0	12.038	12	23 46 16.33	2.1968	6 34 33.9	15.945
13	22 1 1.36	2.3001	17 46 48.3	12.151	13	23 48 28.11	2.1959	6 18 35.8	15.991
14	22 3 19.27	2.2970	17 34 35.9	12.263	14	23 50 39.84	2.1950	6 2 35.0	16.036
15	22 5 37.00	2.2939	17 22 16.8	12.372	15	23 52 51.53	2.1945	5 46 31.5	16.079
16	22 7 54.54	2.2908	17 9 51.2	12.481	16	23 55 3.18	2.1938	5 30 25.5	16.120
17	22 10 11.90	2.2877	16 57 19.1	12.588	17	23 57 14.79	2.1932	5 14 17.1	16.159
18	22 12 29.07	2.2847	16 44 40.6	12.695	18	23 59 26.37	2.1926	4 58 6.4	16.197
19	22 14 46.06	2.2817	16 31 55.7	12.800	19	0 1 37.93	2.1925	4 41 53.4	16.234
20	22 17 2.87	2.2787	16 19 4.6	12.903	20	0 3 49.47	2.1922	4 25 38.3	16.269
21	22 19 19.51	2.2758	16 6 7.3	13.006	21	0 6 0.99	2.1919	4 9 21.1	16.302
22	22 21 35.97	2.2729	15 53 3.9	13.107	22	0 8 12.50	2.1917	3 53 2.0	16.333
23	22 23 52.26	2.2700	S. 15 39 54.4	13.207	23	0 10 24.00	2.1916	S. 3 36 41.1	16.363
TUESDAY 10.					THURSDAY 12.				
0	22 26 8.37	2.2671	S. 15 26 39.0	13.306	0	0 12 35.49	2.1916	S. 3 20 18.4	16.399
1	22 28 24.31	2.2643	15 13 17.7	13.403	1	0 14 46.99	2.1917	3 3 54.1	16.418
2	22 30 40.08	2.2615	14 59 50.6	13.500	2	0 16 58.49	2.1916	2 47 28.2	16.444
3	22 32 55.69	2.2587	14 46 17.7	13.596	3	0 19 10.00	2.1920	2 31 0.8	16.467
4	22 35 11.13	2.2560	14 32 39.1	13.689	4	0 21 21.53	2.1923	2 14 32.1	16.489
5	22 37 26.41	2.2534	14 18 55.0	13.781	5	0 23 33.08	2.1926	1 58 2.1	16.509
6	22 39 41.54	2.2508	14 5 5.4	13.873	6	0 25 44.64	2.1929	1 41 31.0	16.527
7	22 41 56.51	2.2482	13 51 10.4	13.962	7	0 27 56.23	2.1935	1 24 58.9	16.543
8	22 44 11.32	2.2456	13 37 10.0	14.050	8	0 30 7.86	2.1941	1 8 25.8	16.559
9	22 46 25.98	2.2431	13 23 4.4	14.136	9	0 32 19.52	2.1947	0 51 51.8	16.573
10	22 48 40.49	2.2407	13 8 53.7	14.222	10	0 34 31.22	2.1954	0 35 17.1	16.583
11	22 50 54.86	2.2383	12 54 37.8	14.307	11	0 36 42.97	2.1963	0 18 41.8	16.593
12	22 53 9.09	2.2360	12 40 16.9	14.389	12	0 38 54.78	2.1972	S. 0 2 5.9	16.602
13	22 55 23.18	2.2337	12 25 51.1	14.471	13	0 41 6.64	2.1981	N. 0 14 30.4	16.608
14	22 57 37.13	2.2314	12 11 20.4	14.551	14	0 43 18.55	2.1991	0 31 7.0	16.613
15	22 59 50.94	2.2292	11 56 45.0	14.629	15	0 45 30.53	2.2002	0 47 43.9	16.616
16	23 2 4.63	2.2271	11 42 4.9	14.707	16	0 47 42.58	2.2014	1 4 20.9	16.617
17	23 4 18.19	2.2249	11 27 20.2	14.783	17	0 49 54.70	2.2026	1 20 57.9	16.616
18	23 6 31.62	2.2228	11 12 31.0	14.857	18	0 52 6.89	2.2039	1 37 34.8	16.613
19	23 8 44.93	2.2209	10 57 37.4	14.930	19	0 54 19.17	2.2054	1 54 11.5	16.609
20	23 10 58.13	2.2190	10 42 39.4	15.002	20	0 56 31.54	2.2068	2 10 47.9	16.603
21	23 13 11.21	2.2171	10 27 37.2	15.072	21	0 58 43.99	2.2083	2 27 23.9	16.596
22	23 15 24.18	2.2153	10 12 30.8	15.141	22	1 0 56.54	2.2100	2 43 59.4	16.587
23	23 17 37.05	2.2136	9 57 20.3	15.207	23	1 3 9.19	2.2117	3 0 34.3	16.575
24	23 19 49.81	2.2119	S. 9 42 5.9	15.272	24	1 5 21.95	2.2135	N. 3 17 8.4	16.569

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	1 5 21.95	2.2135	N. 3 17' 8.4	16.509	0	2 54 51.01	2.3677	N. 15 42' 0.3	13.762
1	1 7 34.81	2.2153	3 33 41.7	16.547	1	2 57 13.20	2.3719	15 55 42.9	13.658
2	1 9 47.79	2.2172	3 50 14.0	16.530	2	2 59 35.64	2.3761	16 9 19.3	13.554
3	1 12 0.88	2.2192	4 6 45.3	16.519	3	3 1 58.33	2.3803	16 22 49.1	13.447
4	1 14 14.09	2.2212	4 23 15.4	16.491	4	3 4 21.27	2.3845	16 36 13.0	13.338
5	1 16 27.43	2.2233	4 39 44.2	16.469	5	3 6 44.47	2.3887	16 49 30.0	13.228
6	1 18 40.89	2.2255	4 56 11.7	16.446	6	3 9 7.91	2.3928	17 2 40.4	13.117
7	1 20 54.49	2.2278	5 12 37.7	16.419	7	3 11 31.60	2.3970	17 15 44.0	13.003
8	1 23 8.23	2.2301	5 29 2.0	16.391	8	3 13 55.55	2.4012	17 28 40.7	12.888
9	1 25 22.10	2.2324	5 45 24.6	16.362	9	3 16 19.75	2.4054	17 41 30.5	12.771
10	1 27 36.12	2.2349	6 1 45.4	16.331	10	3 18 44.20	2.4096	17 54 13.2	12.652
11	1 29 50.29	2.2375	6 18 4.3	16.297	11	3 21 8.90	2.4137	18 6 48.7	12.532
12	1 32 4.62	2.2401	6 34 21.1	16.262	12	3 23 33.84	2.4178	18 19 17.0	12.410
13	1 34 19.10	2.2427	6 50 35.8	16.226	13	3 25 59.03	2.4219	18 31 37.9	12.287
14	1 36 33.74	2.2454	7 6 48.2	16.187	14	3 28 24.47	2.4261	18 43 51.4	12.162
15	1 38 48.55	2.2482	7 22 58.2	16.146	15	3 30 50.16	2.4302	18 55 57.3	12.035
16	1 41 3.53	2.2511	7 39 5.7	16.103	16	3 33 16.09	2.4342	19 7 55.6	11.907
17	1 43 18.68	2.2540	7 55 10.6	16.059	17	3 35 42.26	2.4382	19 19 46.1	11.777
18	1 45 34.01	2.2570	8 11 12.8	16.013	18	3 38 8.67	2.4422	19 31 28.8	11.646
19	1 47 49.52	2.2600	8 27 12.2	15.965	19	3 40 35.32	2.4462	19 43 3.6	11.513
20	1 50 5.21	2.2631	8 43 8.6	15.915	20	3 43 2.21	2.4501	19 54 30.4	11.379
21	1 52 21.09	2.2662	8 59 2.0	15.863	21	3 45 29.33	2.4540	20 5 49.1	11.243
22	1 54 37.16	2.2694	9 14 52.2	15.809	22	3 47 56.69	2.4578	20 16 59.6	11.107
23	1 56 53.42	2.2727	N. 9 30 39.1	15.754	23	3 50 24.27	2.4616	N. 20 28 1.9	10.968
SATURDAY 14.					MONDAY 16.				
0	1 59 9.88	2.2760	N. 9 46 22.7	15.697	0	3 52 52.08	2.4653	N. 20 38 55.8	10.828
1	2 1 26.54	2.2793	10 2 2.8	15.637	1	3 55 20.11	2.4691	20 49 41.2	10.687
2	2 3 43.40	2.2827	10 17 39.2	15.576	2	3 57 48.37	2.4728	21 0 18.2	10.545
3	2 6 0.47	2.2862	10 33 11.9	15.513	3	4 0 16.85	2.4764	21 10 46.6	10.401
4	2 8 17.75	2.2897	10 48 40.8	15.448	4	4 2 45.54	2.4799	21 21 6.3	10.256
5	2 10 35.24	2.2933	11 4 5.7	15.381	5	4 5 14.44	2.4835	21 31 17.3	10.109
6	2 12 52.94	2.2968	11 19 26.5	15.312	6	4 7 43.56	2.4870	21 41 19.4	9.961
7	2 15 10.86	2.3005	11 34 43.1	15.242	7	4 10 12.88	2.4903	21 51 12.6	9.812
8	2 17 29.00	2.3042	11 49 55.5	15.170	8	4 12 42.39	2.4935	22 0 56.9	9.662
9	2 19 47.37	2.3080	12 5 3.5	15.096	9	4 15 12.10	2.4968	22 10 32.1	9.511
10	2 22 5.96	2.3118	12 20 7.0	15.020	10	4 17 42.01	2.5000	22 19 58.2	9.358
11	2 24 24.78	2.3156	12 35 5.9	14.942	11	4 20 12.10	2.5030	22 29 15.1	9.205
12	2 26 43.83	2.3194	12 50 0.0	14.862	12	4 22 42.37	2.5060	22 38 22.8	9.051
13	2 29 3.11	2.3233	13 4 49.3	14.780	13	4 25 12.82	2.5089	22 47 21.2	8.895
14	2 31 22.63	2.3272	13 19 33.6	14.697	14	4 27 43.44	2.5118	22 56 10.2	8.737
15	2 33 42.38	2.3312	13 34 12.9	14.612	15	4 30 14.24	2.5147	23 4 49.7	8.579
16	2 36 2.37	2.3352	13 48 47.0	14.524	16	4 32 45.20	2.5173	23 13 19.7	8.421
17	2 38 22.60	2.3391	14 3 15.8	14.435	17	4 35 16.32	2.5199	23 21 40.2	8.263
18	2 40 43.06	2.3431	14 17 39.2	14.344	18	4 37 47.59	2.5224	23 29 51.2	8.103
19	2 43 3.77	2.3472	14 31 57.1	14.252	19	4 40 19.01	2.5248	23 37 52.5	7.941
20	2 45 24.73	2.3513	14 46 9.4	14.157	20	4 42 50.57	2.5271	23 45 44.1	7.778
21	2 47 45.93	2.3554	15 0 16.0	14.061	21	4 45 22.26	2.5292	23 53 25.8	7.614
22	2 50 7.38	2.3595	15 14 16.7	13.962	22	4 47 54.08	2.5313	24 0 57.7	7.450
23	2 52 29.07	2.3636	15 28 11.5	13.863	23	4 50 26.02	2.5334	24 8 19.8	7.288
24	2 54 51.01	2.3677	N. 15 42 0.3	13.762	24	4 52 58.09	2.5354	N. 24 15 32.1	7.129

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	^h 4 ^m 52 ^s 58.09	2.5354	N. 24° 15' 32.1"	7.192	0	^h 6 ^m 54 ^s 32.49	2.4813	N. 26° 41' 19.1"	1.001
1	4 55 30.27	2.5372	24 22 34.4	6.955	1	6 57 1.25	2.4779	26 40 14.2	1.161
2	4 58 2.55	2.5388	24 29 26.7	6.788	2	6 59 29.75	2.4788	26 38 59.8	1.319
3	5 0 34.92	2.5403	24 36 8.9	6.690	3	7 1 57.99	2.4804	26 37 35.9	1.477
4	5 3 7.38	2.5418	24 42 41.1	6.453	4	7 4 25.96	2.4840	26 36 2.5	1.635
5	5 5 39.93	2.5432	24 49 3.3	6.285	5	7 6 53.67	2.4585	26 34 19.7	1.792
6	5 8 12.56	2.5444	24 55 15.3	6.115	6	7 9 21.10	2.4548	26 32 27.5	1.947
7	5 10 45.26	2.5455	25 1 17.1	5.946	7	7 11 48.25	2.4501	26 30 26.0	2.102
8	5 13 18.02	2.5465	25 7 8.8	5.776	8	7 14 15.11	2.4452	26 28 15.3	2.255
9	5 15 50.84	2.5474	25 12 50.3	5.606	9	7 16 41.67	2.4409	26 25 55.4	2.407
10	5 18 23.71	2.5482	25 18 21.5	5.435	10	7 19 7.93	2.4352	26 23 26.4	2.559
11	5 20 56.62	2.5488	25 23 42.5	5.265	11	7 21 33.89	2.4301	26 20 48.3	2.710
12	5 23 29.56	2.5493	25 28 53.3	5.094	12	7 23 59.54	2.4249	26 18 1.2	2.860
13	5 26 2.53	2.5497	25 33 53.8	4.922	13	7 26 24.88	2.4196	26 15 5.1	3.008
14	5 28 35.52	2.5499	25 38 43.0	4.749	14	7 28 49.89	2.4142	26 12 0.2	3.155
15	5 31 8.52	2.5500	25 43 23.7	4.577	15	7 31 14.58	2.4087	26 8 46.5	3.301
16	5 33 41.52	2.5500	25 47 53.2	4.405	16	7 33 38.94	2.4034	26 5 24.1	3.447
17	5 36 14.52	2.5499	25 52 12.3	4.232	17	7 36 2.97	2.3977	26 1 52.9	3.592
18	5 38 47.51	2.5497	25 56 21.1	4.060	18	7 38 26.66	2.3930	25 58 13.1	3.734
19	5 41 20.48	2.5493	26 0 19.5	3.888	19	7 40 50.01	2.3882	25 54 24.8	3.876
20	5 43 53.42	2.5487	26 4 7.6	3.716	20	7 43 13.01	2.3804	25 50 28.0	4.017
21	5 46 26.32	2.5480	26 7 45.4	3.543	21	7 45 35.66	2.3746	25 46 22.7	4.157
22	5 48 59.18	2.5472	26 11 12.8	3.370	22	7 47 57.96	2.3687	25 42 9.1	4.296
23	5 51 31.99	2.5462	N. 26° 14' 29.8"	3.197	23	7 50 19.90	2.3628	N. 25° 37' 47.2"	4.432
WEDNESDAY 18.					FRIDAY 20.				
0	5 54 4.73	2.5459	N. 26° 17' 36.5"	3.025	0	7 52 41.49	2.3568	N. 25° 33' 17.2"	4.568
1	5 56 37.41	2.5441	26 20 32.8	2.853	1	7 55 2.72	2.3507	25 28 39.0	4.704
2	5 59 10.02	2.5428	26 23 18.8	2.681	2	7 57 23.57	2.3444	25 23 52.7	4.837
3	6 1 42.54	2.5413	26 25 54.5	2.508	3	7 59 44.05	2.3382	25 18 58.5	4.969
4	6 4 14.97	2.5397	26 28 19.8	2.337	4	8 2 4.16	2.3321	25 13 56.4	5.101
5	6 6 47.30	2.5379	26 30 34.9	2.166	5	8 4 23.90	2.3259	25 8 46.4	5.232
6	6 9 19.52	2.5360	26 32 39.7	1.994	6	8 6 43.27	2.3197	25 3 28.6	5.361
7	6 11 51.62	2.5341	26 34 34.2	1.823	7	8 9 2.26	2.3133	24 58 3.1	5.488
8	6 14 23.61	2.5321	26 36 18.5	1.653	8	8 11 20.86	2.3069	24 52 30.0	5.614
9	6 16 55.47	2.5298	26 37 52.6	1.483	9	8 13 39.08	2.3005	24 46 49.4	5.739
10	6 19 27.19	2.5274	26 39 16.5	1.314	10	8 15 56.92	2.2941	24 41 1.3	5.864
11	6 21 58.76	2.5249	26 40 30.3	1.145	11	8 18 14.37	2.2877	24 35 5.7	5.987
12	6 24 30.18	2.5222	26 41 33.9	0.976	12	8 20 31.44	2.2812	24 29 2.8	6.109
13	6 27 1.43	2.5194	26 42 27.4	0.807	13	8 22 48.12	2.2747	24 22 52.6	6.229
14	6 29 32.51	2.5166	26 43 10.8	0.640	14	8 25 4.41	2.2682	24 16 35.3	6.348
15	6 32 3.42	2.5137	26 43 44.2	0.473	15	8 27 20.30	2.2616	24 10 10.9	6.466
16	6 34 34.15	2.5106	26 44 7.6	0.307	16	8 29 35.80	2.2551	24 3 39.4	6.582
17	6 37 4.69	2.5073	26 44 21.0	+ 0.141	17	8 31 50.91	2.2485	23 57 1.0	6.697
18	6 39 35.03	2.5039	26 44 24.5	- 0.024	18	8 34 5.62	2.2419	23 50 15.7	6.812
19	6 42 5.16	2.5004	26 44 18.1	0.189	19	8 36 19.94	2.2354	23 43 23.5	6.926
20	6 44 35.08	2.4968	26 44 1.8	0.353	20	8 38 33.87	2.2288	23 36 24.6	7.037
21	6 47 4.78	2.4931	26 43 35.7	0.516	21	8 40 47.40	2.2223	23 29 19.1	7.147
22	6 49 34.25	2.4892	26 42 59.8	0.678	22	8 43 0.54	2.2157	23 22 7.0	7.257
23	6 52 3.49	2.4853	26 42 14.3	0.839	23	8 45 13.28	2.2090	23 14 48.3	7.365
24	6 54 32.49	2.4813	N. 26° 41' 19.1"	1.001	24	8 47 25.62	2.2024	N. 23° 7' 23.2"	7.472

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 21.					MONDAY 23.				
0	h m s	s	N. 23° 7' 23.2"	7.472	0	h m s	s	N. 15° 27' 35.1"	11.976
1	8 47 25.62	2.2024	22 59 51.7	7.577	1	10 26 1.63	1.9216	15 16 16.9	11.331
2	8 49 37.57	2.1959	22 52 13.9	7.682	2	10 27 56.79	1.9170	15 4 55.4	11.386
3	8 51 49.13	2.1893	22 44 29.9	7.785	3	10 29 51.67	1.9124	14 53 30.6	11.439
4	8 54 0.29	2.1827	22 36 39.7	7.887	4	10 31 46.28	1.9079	14 42 2.7	11.491
5	8 56 11.06	2.1762	22 28 43.4	7.987	5	10 33 40.62	1.9035	14 30 31.7	11.542
6	8 58 21.44	2.1697	22 20 41.2	8.087	6	10 35 34.70	1.8992	14 18 57.7	11.592
7	9 0 31.42	2.1631	22 12 33.0	8.186	7	10 37 28.52	1.8949	14 7 20.7	11.642
8	9 2 41.01	2.1566	22 4 18.9	8.282	8	10 39 22.08	1.8906	13 55 40.7	11.691
9	9 4 50.21	2.1500	21 55 59.1	8.378	9	10 41 15.39	1.8863	13 43 57.8	11.739
10	9 6 59.03	2.1437	21 47 33.5	8.474	10	10 43 8.44	1.8822	13 32 12.0	11.786
11	9 9 7.46	2.1373	21 39 2.2	8.567	11	10 45 1.25	1.8782	13 20 23.5	11.832
12	9 11 15.50	2.1308	21 30 25.4	8.659	12	10 46 53.82	1.8742	13 8 32.2	11.877
13	9 13 23.16	2.1245	21 21 43.1	8.751	13	10 48 46.15	1.8702	12 56 38.2	11.922
14	9 15 30.44	2.1181	21 12 55.3	8.842	14	10 50 38.25	1.8664	12 44 41.6	11.966
15	9 17 37.33	2.1117	21 4 2.1	8.931	15	10 52 30.12	1.8626	12 32 42.3	12.010
16	9 19 43.84	2.1054	20 55 3.6	9.018	16	10 54 21.76	1.8588	12 20 40.4	12.052
17	9 21 49.97	2.0991	20 45 59.9	9.105	17	10 56 13.18	1.8552	12 8 36.0	12.093
18	9 23 55.73	2.0928	20 36 51.0	9.191	18	10 58 4.39	1.8516	11 56 29.2	12.134
19	9 26 1.11	2.0865	20 27 37.0	9.276	19	10 59 55.38	1.8481	11 44 19.9	12.175
20	9 28 6.12	2.0804	20 18 17.9	9.359	20	11 1 46.16	1.8447	11 32 8.2	12.214
21	9 30 10.76	2.0743	20 8 53.9	9.441	21	11 3 36.74	1.8413	11 19 54.2	12.253
22	9 32 15.04	2.0682	19 59 25.0	9.522	22	11 5 27.12	1.8381	11 7 37.9	12.290
23	9 34 18.95	2.0622	N. 19 49 51.2	9.602	23	11 7 17.31	1.8348	N. 10 55 19.4	12.327
24	9 36 22.50	2.0561				11 9 7.30	1.8316		
SUNDAY 22.					TUESDAY 24.				
0	9 38 25.68	2.0501	N. 19 40 12.7	9.681	0	11 10 57.10	1.8285	N. 10 42 58.6	12.364
1	9 40 28.51	2.0442	19 30 29.5	9.759	1	11 12 46.72	1.8255	10 30 35.7	12.399
2	9 42 30.98	2.0383	19 20 41.6	9.837	2	11 14 36.16	1.8225	10 18 10.7	12.435
3	9 44 33.10	2.0324	19 10 49.1	9.913	3	11 16 25.42	1.8196	10 5 43.5	12.470
4	9 46 34.87	2.0266	19 0 52.1	9.988	4	11 18 14.51	1.8168	9 53 14.3	12.503
5	9 48 36.30	2.0209	18 50 50.6	10.062	5	11 18 14.51	1.8140	9 40 43.2	12.535
6	9 50 37.38	2.0152	18 40 44.7	10.134	6	11 20 3.43	1.8113	9 28 10.1	12.567
7	9 52 38.12	2.0095	18 30 34.5	10.206	7	11 21 52.19	1.8087	9 15 35.1	12.599
8	9 54 38.52	2.0039	18 20 20.0	10.277	8	11 23 40.79	1.8062	9 2 58.2	12.630
9	9 56 38.59	1.9984	18 10 1.3	10.347	9	11 25 29.24	1.8037	8 50 19.5	12.660
10	9 58 38.33	1.9929	17 59 38.4	10.415	10	11 27 17.53	1.8013	8 37 39.0	12.689
11	10 0 37.74	1.9874	17 49 11.5	10.482	11	11 29 5.68	1.7990	8 24 56.8	12.718
12	10 2 36.82	1.9820	17 38 40.6	10.549	12	11 30 53.69	1.7967	8 12 12.9	12.746
13	10 4 35.58	1.9766	17 28 5.7	10.615	13	11 32 41.56	1.7945	7 59 27.3	12.773
14	10 6 34.02	1.9713	17 17 26.8	10.680	14	11 34 29.29	1.7924	7 46 40.1	12.800
15	10 8 32.14	1.9661	17 6 44.1	10.744	15	11 36 16.90	1.7903	7 33 51.3	12.826
16	10 10 29.95	1.9610	16 55 57.6	10.807	16	11 38 4.38	1.7884	7 21 1.0	12.851
17	10 12 27.46	1.9559	16 45 7.3	10.869	17	11 39 51.74	1.7865	7 8 9.2	12.876
18	10 14 24.66	1.9508	16 34 13.3	10.930	18	11 41 38.99	1.7847	6 55 15.9	12.900
19	10 16 21.56	1.9458	16 23 15.7	10.990	19	11 43 26.12	1.7829	6 42 21.2	12.923
20	10 18 18.16	1.9408	16 12 14.5	11.049	20	11 45 13.15	1.7812	6 29 25.2	12.945
21	10 20 14.46	1.9359	16 1 9.8	11.107	21	11 47 0.07	1.7795	6 16 27.8	12.967
22	10 22 10.47	1.9311	15 50 1.6	11.165	22	11 48 46.89	1.7780	6 3 29.1	12.989
23	10 24 6.19	1.9263	15 38 50.0	11.221	23	11 50 33.61	1.7766	5 50 29.1	13.010
24	10 26 1.63	1.9216	N. 15 27 35.1	11.276	24	11 52 20.25	1.7752	N. 5 37 27.9	13.030

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25.					FRIDAY 27.				
0	^h 11 ^m 54 ^s 6.80	1.7752	N. 5° 37' 27.9"	13.030	0	^h 13 ^m 19 ^s 2.54	1.7907	S. 4° 58' 46.8"	13.226
1	11 55 53.27	1.7738	5 24 25.5	13.049	1	13 20 50.04	1.7927	5 12 0.0	13.213
2	11 57 39.66	1.7725	5 11 22.0	13.068	2	13 22 37.67	1.7948	5 25 12.4	13.200
3	11 59 25.97	1.7719	4 58 17.4	13.086	3	13 24 25.42	1.7970	5 38 24.0	13.186
4	12 1 12.21	1.7709	4 45 11.7	13.104	4	13 26 13.31	1.7992	5 51 34.7	13.171
5	12 2 58.39	1.7692	4 32 5.0	13.121	5	13 28 1.33	1.8015	6 4 44.5	13.155
6	12 4 44.51	1.7682	4 18 57.2	13.137	6	13 29 49.49	1.8038	6 17 53.3	13.139
7	12 6 30.57	1.7673	4 5 48.5	13.152	7	13 31 37.79	1.8063	6 31 1.1	13.122
8	12 8 16.58	1.7664	3 52 38.9	13.167	8	13 33 26.25	1.8089	6 44 7.9	13.104
9	12 10 2.54	1.7656	3 39 28.5	13.181	9	13 35 14.86	1.8115	6 57 13.6	13.085
10	12 11 48.45	1.7649	3 26 17.2	13.195	10	13 37 3.63	1.8141	7 10 18.1	13.065
11	12 13 34.33	1.7643	3 13 5.1	13.208	11	13 38 52.56	1.8168	7 23 21.4	13.045
12	12 15 20.17	1.7637	2 50 52.3	13.220	12	13 40 41.65	1.8196	7 36 23.5	13.024
13	12 17 5.98	1.7632	2 46 38.7	13.232	13	13 42 30.91	1.8225	7 49 24.3	13.002
14	12 18 51.76	1.7628	2 33 24.5	13.243	14	13 44 20.35	1.8254	8 2 23.7	12.979
15	12 20 37.52	1.7625	2 20 9.6	13.253	15	13 46 9.96	1.8283	8 15 21.8	12.956
16	12 22 23.26	1.7622	2 6 54.1	13.263	16	13 47 59.75	1.8314	8 28 18.5	12.932
17	12 24 8.99	1.7620	1 53 38.0	13.273	17	13 49 49.73	1.8345	8 41 13.6	12.906
18	12 25 54.70	1.7618	1 40 21.4	13.281	18	13 51 39.89	1.8377	8 54 7.2	12.880
19	12 27 40.40	1.7617	1 27 4.3	13.288	19	13 53 30.25	1.8410	9 6 59.2	12.853
20	12 29 26.11	1.7619	1 13 46.8	13.296	20	13 55 20.81	1.8443	9 19 49.6	12.826
21	12 31 11.83	1.7621	1 0 28.8	13.303	21	13 57 11.57	1.8477	9 32 38.3	12.797
22	12 32 57.56	1.7622	0 47 10.4	13.309	22	13 59 2.53	1.8510	9 45 25.2	12.767
23	12 34 43.29	1.7623	N. 0 33 51.7	13.314	23	14 0 53.69	1.8544	S. 9 58 10.3	12.737
THURSDAY 26.					SATURDAY 28.				
0	12 36 29.03	1.7625	N. 0 20 32.8	13.318	0	14 2 45.06	1.8580	S. 10 10 53.6	12.706
1	12 38 14.79	1.7629	N. 0 7 13.6	13.322	1	14 4 36.65	1.8617	10 23 35.0	12.674
2	12 40 0.58	1.7634	S. 0 6 5.8	13.326	2	14 6 28.46	1.8654	10 36 14.5	12.641
3	12 41 46.40	1.7639	0 19 25.5	13.329	3	14 8 20.50	1.8692	10 48 51.9	12.606
4	12 43 32.25	1.7645	0 32 45.3	13.330	4	14 10 12.76	1.8730	11 1 27.2	12.572
5	12 45 18.14	1.7652	0 46 5.1	13.331	5	14 12 5.26	1.8769	11 14 0.5	12.537
6	12 47 4.07	1.7659	0 59 25.0	13.332	6	14 13 57.99	1.8808	11 26 31.6	12.500
7	12 48 50.05	1.7666	1 12 44.9	13.332	7	14 15 50.96	1.8848	11 39 0.5	12.462
8	12 50 36.07	1.7674	1 26 4.8	13.332	8	14 17 44.17	1.8888	11 51 27.1	12.423
9	12 52 22.14	1.7683	1 39 24.7	13.330	9	14 19 37.62	1.8929	12 3 51.3	12.383
10	12 54 8.27	1.7694	1 52 44.4	13.328	10	14 21 31.32	1.8971	12 16 13.1	12.343
11	12 55 54.47	1.7705	2 6 4.0	13.325	11	14 23 25.28	1.9014	12 28 32.5	12.302
12	12 57 40.73	1.7716	2 19 23.4	13.322	12	14 25 19.49	1.9057	12 40 49.4	12.260
13	12 59 27.06	1.7728	2 32 42.6	13.317	13	14 27 13.96	1.9100	12 53 3.7	12.217
14	13 1 13.47	1.7741	2 46 1.5	13.312	14	14 29 8.69	1.9144	13 5 15.4	12.172
15	13 2 59.96	1.7755	2 59 20.1	13.307	15	14 31 3.69	1.9189	13 17 24.4	12.127
16	13 4 46.53	1.7768	3 12 38.3	13.301	16	14 32 58.96	1.9234	13 29 30.6	12.080
17	13 6 33.18	1.7782	3 25 56.2	13.295	17	14 34 54.50	1.9280	13 41 34.0	12.033
18	13 8 19.92	1.7796	3 39 13.7	13.287	18	14 36 50.32	1.9326	13 53 34.6	11.986
19	13 10 6.76	1.7815	3 52 30.7	13.278	19	14 38 46.42	1.9373	14 5 32.3	11.936
20	13 11 53.70	1.7832	4 5 47.1	13.269	20	14 40 42.80	1.9421	14 17 26.9	11.884
21	13 13 40.74	1.7849	4 19 3.0	13.260	21	14 42 39.47	1.9469	14 29 18.4	11.833
22	13 15 27.89	1.7868	4 32 18.3	13.249	22	14 44 36.43	1.9518	14 41 6.8	11.781
23	13 17 15.16	1.7887	4 45 32.9	13.238	23	14 46 33.68	1.9567	14 52 52.1	11.728
24	13 19 2.54	1.7907	S. 4 58 46.8	13.226	24	14 48 31.23	1.9616	S. 15 4 34.2	11.674

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 29.					TUESDAY, DECEMBER 1.				
0	^h 14 ^m 48 ^s 31.23	1.9616	S. 15° 4' 34.2"	11.674	0	^h 16 ^m 29 ^s 5.53	2.2368	S. 23° 0' 23.1"	7.692
1	14 50 29.07	1.9666	15 16 13.0	11.618					
2	14 52 27.22	1.9717	15 27 48.4	11.561					
3	14 54 25.67	1.9768	15 39 20.3	11.503					
4	14 56 24.43	1.9819	15 50 48.7	11.444					
5	14 58 23.50	1.9871	16 2 13.6	11.384					
6	15 0 22.88	1.9923	16 13 34.8	11.323					
7	15 2 22.58	1.9976	16 24 52.3	11.261					
8	15 4 22.60	2.0029	16 36 6.1	11.198					
9	15 6 22.93	2.0083	16 47 16.1	11.134					
10	15 8 23.59	2.0137	16 58 22.2	11.068					
11	15 10 24.57	2.0191	17 9 24.3	11.001					
12	15 12 25.88	2.0246	17 20 22.3	10.933					
13	15 14 27.52	2.0302	17 31 16.2	10.864					
14	15 16 29.50	2.0357	17 42 6.0	10.795					
15	15 18 31.81	2.0413	17 52 51.6	10.724					
16	15 20 34.46	2.0470	18 3 32.9	10.651					
17	15 22 37.45	2.0526	18 14 9.7	10.578					
18	15 24 40.78	2.0583	18 24 42.0	10.501					
19	15 26 44.45	2.0641	18 35 9.8	10.426					
20	15 28 48.47	2.0699	18 45 33.1	10.349					
21	15 30 52.84	2.0757	18 55 51.7	10.270					
22	15 32 57.56	2.0815	19 6 5.5	10.191					
23	15 35 2.62	2.0873	S. 19 16 14.6	10.111					
MONDAY 30.					PHASES OF THE MOON.				
0	15 37 8.03	2.0932	S. 19 26 18.8	10.028					
1	15 39 13.80	2.0991	19 36 18.0	9.945					
2	15 41 19.92	2.1050	19 46 12.2	9.861					
3	15 43 26.40	2.1109	19 56 1.3	9.775					
4	15 45 33.23	2.1168	20 5 45.2	9.688					
5	15 47 40.42	2.1226	20 15 23.8	9.600					
6	15 49 47.97	2.1286	20 24 57.2	9.512					
7	15 51 55.88	2.1348	20 34 25.2	9.421					
8	15 54 4.15	2.1407	20 43 47.7	9.328					
9	15 56 12.77	2.1467	20 53 4.6	9.235					
10	15 58 21.76	2.1528	21 2 15.9	9.142					
11	16 0 31.11	2.1588	21 11 21.6	9.047					
12	16 2 40.82	2.1648	21 20 21.5	8.950					
13	16 4 50.89	2.1709	21 29 15.6	8.858					
14	16 7 1.33	2.1770	21 38 3.7	8.759					
15	16 9 12.13	2.1830	21 46 45.8	8.658					
16	16 11 23.29	2.1890	21 55 21.9	8.550					
17	16 13 34.81	2.1950	22 3 51.8	8.447					
18	16 15 46.69	2.2010	22 12 15.5	8.342					
19	16 17 58.93	2.2070	22 20 32.9	8.237					
20	16 20 11.53	2.2131	22 28 44.0	8.131					
21	16 22 24.50	2.2191	22 36 48.6	8.023					
22	16 24 37.82	2.2250	22 44 46.7	7.912					
23	16 26 51.50	2.2309	22 52 38.2	7.803					
24	16 29 5.53	2.2368	S. 23 0 23.1	7.692					

PHASES OF THE MOON.

	d	h	m
● New Moon . . Nov.	1	6	32.6
☾ First Quarter . . .	8	20	46.4
○ Full Moon	15	12	16.1
☾ Last Quarter	22	20	25.9
● New Moon	30	23	45.0

	d	h
☾ Perigee Nov.	13	13.2
☾ Apogee	25	8.8

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
2	SUN W. 8 8 56 3348 9 32 12 3336 10 55 53 3308 12 19 55 3292	8 8 56 3348		9 32 12 3336		10 55 53 3308		12 19 55 3292	
	α Aquilæ E. 74 16 23 3816 73 1 37 3894 71 47 0 3833 70 32 32 3845	74 16 23 3816		73 1 37 3894		71 47 0 3833		70 32 32 3845	
	Fomalhaut E. 103 43 3 3093 102 14 45 3083 100 46 15 3074 99 17 34 3066	103 43 3 3093		102 14 45 3083		100 46 15 3074		99 17 34 3066	
3	SUN W. 19 24 10 3233 20 49 40 3223 22 15 22 3214 23 41 15 3204	19 24 10 3233		20 49 40 3223		22 15 22 3214		23 41 15 3204	
	α Aquilæ E. 64 23 37 3225 63 10 43 3248 61 58 12 3273 60 46 6 4002	64 23 37 3225		63 10 43 3248		61 58 12 3273		60 46 6 4002	
	Fomalhaut E. 91 51 35 3096 90 21 54 3018 88 52 3 3010 87 22 3 3002	91 51 35 3096		90 21 54 3018		88 52 3 3010		87 22 3 3002	
	α Pegasi E. 110 37 3 3312 109 13 5 3295 107 48 48 3280 106 24 13 3265	110 37 3 3312		109 13 5 3295		107 48 48 3280		106 24 13 3265	
4	SUN W. 30 53 30 3158 32 20 30 3148 33 47 42 3138 35 15 5 3129	30 53 30 3158		32 20 30 3148		33 47 42 3138		35 15 5 3129	
	α Aquilæ E. 54 53 28 4191 53 44 53 4241 52 37 6 4297 51 30 11 4358	54 53 28 4191		53 44 53 4241		52 37 6 4297		51 30 11 4358	
	Fomalhaut E. 79 49 48 2969 78 18 56 2962 76 47 56 2957 75 16 49 2950	79 49 48 2969		78 18 56 2962		76 47 56 2957		75 16 49 2950	
	α Pegasi E. 99 17 13 3201 97 51 5 3189 96 24 43 3178 94 58 8 3168	99 17 13 3201		97 51 5 3189		96 24 43 3178		94 58 8 3168	
5	SUN W. 42 34 55 3081 44 3 28 3070 45 32 14 3061 47 1 11 3051	42 34 55 3081		44 3 28 3070		45 32 14 3061		47 1 11 3051	
	Antares W. 17 9 38 2808 18 43 56 2788 20 18 40 2769 21 53 49 2751	17 9 38 2808		18 43 56 2788		20 18 40 2769		21 53 49 2751	
	Fomalhaut E. 67 39 30 2927 66 7 45 2922 64 35 54 2919 63 3 59 2915	67 39 30 2927		66 7 45 2922		64 35 54 2919		63 3 59 2915	
	JUPITER E. 72 46 43 2738 71 10 54 2727 69 34 53 2720 67 58 40 2712	72 46 43 2738		71 10 54 2727		69 34 53 2720		67 58 40 2712	
	α Pegasi E. 87 42 20 3124 86 14 40 3116 84 46 50 3109 83 18 51 3103	87 42 20 3124		86 14 40 3116		84 46 50 3109		83 18 51 3103	
6	SUN W. 54 29 9 2998 55 59 24 2987 57 29 53 2977 59 0 35 2965	54 29 9 2998		55 59 24 2987		57 29 53 2977		59 0 35 2965	
	Antares W. 29 54 48 2680 31 31 55 2668 33 9 18 2655 34 46 58 2643	29 54 48 2680		31 31 55 2668		33 9 18 2655		34 46 58 2643	
	Fomalhaut E. 55 23 37 2909 53 51 30 2910 52 19 24 2912 50 47 21 2916	55 23 37 2909		53 51 30 2910		52 19 24 2912		50 47 21 2916	
	JUPITER E. 59 54 39 2666 58 17 14 2657 56 39 37 2648 55 1 47 2639	59 54 39 2666		58 17 14 2657		56 39 37 2648		55 1 47 2639	
	α Pegasi E. 75 57 14 3078 74 28 38 3075 72 59 58 3073 71 31 15 3072	75 57 14 3078		74 28 38 3075		72 59 58 3073		71 31 15 3072	
7	SUN W. 66 37 37 2909 68 9 45 2907 69 42 8 2895 71 14 46 2873	66 37 37 2909		68 9 45 2907		69 42 8 2895		71 14 46 2873	
	Antares W. 42 59 22 2584 44 38 39 2573 46 18 13 2560 47 58 3 2548	42 59 22 2584		44 38 39 2573		46 18 13 2560		47 58 3 2548	
	Fomalhaut E. 43 8 49 2958 41 37 43 2973 40 6 57 2992 38 36 34 3015	43 8 49 2958		41 37 43 2973		40 6 57 2992		38 36 34 3015	
	JUPITER E. 46 49 25 2591 45 10 18 2581 43 30 57 2572 41 51 23 2561	46 49 25 2591		45 10 18 2581		43 30 57 2572		41 51 23 2561	
	α Pegasi E. 64 7 35 3078 62 38 58 3062 61 10 27 3069 59 42 4 3096	64 7 35 3078		62 38 58 3062		61 10 27 3069		59 42 4 3096	
8	SUN W. 79 1 52 2811 80 36 5 2798 82 10 35 2785 83 45 22 2773	79 1 52 2811		80 36 5 2798		82 10 35 2785		83 45 22 2773	
	Antares W. 56 21 18 2489 58 2 47 2477 59 44 33 2465 61 26 36 2453	56 21 18 2489		58 2 47 2477		59 44 33 2465		61 26 36 2453	
	JUPITER E. 33 30 17 2517 31 49 27 2509 30 8 26 2501 28 27 14 2493	33 30 17 2517		31 49 27 2509		30 8 26 2501		28 27 14 2493	
	α Pegasi E. 52 23 17 3168 50 56 29 3190 49 30 8 3216 48 4 18 3246	52 23 17 3168		50 56 29 3190		49 30 8 3216		48 4 18 3246	
	α Arietis E. 92 10 10 2569 90 30 33 2558 88 50 40 2546 87 10 31 2535	92 10 10 2569		90 30 33 2558		88 50 40 2546		87 10 31 2535	
9	SUN W. 91 43 26 2709 93 19 54 2696 94 56 39 2683 96 33 42 2670	91 43 26 2709		93 19 54 2696		94 56 39 2683		96 33 42 2670	
	Antares W. 70 1 9 2391 71 44 56 2380 73 29 0 2368 75 13 21 2355	70 1 9 2391		71 44 56 2380		73 29 0 2368		75 13 21 2355	
	α Arietis E. 78 45 49 2479 77 4 6 2469 75 22 9 2458 73 39 57 2446	78 45 49 2479		77 4 6 2469		75 22 9 2458		73 39 57 2446	
	Aldebaran E. 109 1 3 2415 107 17 49 2402 105 34 17 2389 103 50 27 2378	109 1 3 2415		107 17 49 2402		105 34 17 2389		103 50 27 2378	
10	SUN W. 104 43 12 2607 106 21 57 2595 108 0 59 2583 109 40 17 2571	104 43 12 2607		106 21 57 2595		108 0 59 2583		109 40 17 2571	
	α Aquilæ W. 46 28 47 4197 47 37 16 4077 48 47 40 3968 49 59 51 3868	46 28 47 4197		47 37 16 4077		48 47 40 3968		49 59 51 3868	
	α Arietis E. 65 5 28 2403 63 21 57 2394 61 38 14 2387 59 54 21 2381	65 5 28 2403		63 21 57 2394		61 38 14 2387		59 54 21 2381	
	Aldebaran E. 95 6 55 2317 93 21 20 2306 91 35 29 2294 89 49 21 2283	95 6 55 2317		93 21 20 2306		91 35 29 2294		89 49 21 2283	
11	SUN W. 118 0 51 2515 119 41 44 2504 121 22 52 2493 123 4 15 2484	118 0 51 2515		119 41 44 2504		121 22 52 2493		123 4 15 2484	
	α Aquilæ W. 56 23 55 3479 57 44 43 3419 59 6 38 3364 60 29 36 3312	56 23 55 3479		57 44 43 3419		59 6 38 3364		60 29 36 3312	
	α Arietis E. 51 12 53 2359 49 28 19 2358 47 43 44 2359 45 59 10 2361	51 12 53 2359		49 28 19 2358		47 43 44 2359		45 59 10 2361	
	Aldebaran E. 80 54 44 2232 79 7 4 2222 77 19 9 2213 75 31 1 2204	80 54 44 2232		79 7 4 2222		77 19 9 2213		75 31 1 2204	

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LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
2	SUN	W.	13 44 16	3278	15 8 53	3265	16 33 46	3253	17 58 52	3243
	α Aquilæ	E.	69 18 16	3257	68 4 13	3271	66 50 24	3287	65 36 51	3296
	Fomalhaut	E.	97 48 43	3057	96 19 41	3049	94 50 29	3041	93 21 7	3033
3	SUN	W.	25 7 20	3194	26 33 36	3185	28 0 3	3176	29 26 41	3167
	α Aquilæ	E.	59 34 28	4032	58 23 20	4066	57 12 45	4103	56 2 46	4145
	Fomalhaut	E.	85 51 53	2996	84 21 35	2989	82 51 8	2981	81 20 32	2975
	α Pegasi	E.	104 59 20	3251	103 34 11	3238	102 8 47	3225	100 43 7	3213
4	SUN	W.	36 42 40	3119	38 10 26	3110	39 38 24	3100	41 6 34	3091
	α Aquilæ	E.	50 24 12	4427	49 19 15	4501	48 15 24	4585	47 12 46	4677
	Fomalhaut	E.	73 45 34	2945	72 14 12	2940	70 42 44	2935	69 11 10	2931
	α Pegasi	E.	93 31 21	3158	92 4 22	3149	90 37 12	3140	89 9 51	3132
5	SUN	W.	48 30 21	3040	49 59 44	3030	51 29 19	3020	52 59 7	3009
	Antares	W.	23 29 21	2735	25 5 14	2730	26 41 27	2706	28 17 59	2693
	Fomalhaut	E.	61 31 59	2912	59 59 56	2911	58 27 51	2909	56 55 44	2909
	JUPITER	E.	66 22 16	2703	64 45 40	2694	63 8 52	2685	61 31 52	2675
	α Pegasi	E.	81 50 45	3097	80 22 32	3091	78 54 12	3087	77 25 46	3082
6	SUN	W.	60 31 31	2954	62 2 41	2943	63 34 5	2931	65 5 44	2920
	Antares	W.	36 24 54	2631	38 3 7	2619	39 41 36	2607	41 20 21	2596
	Fomalhaut	E.	49 15 22	2920	47 43 29	2927	46 11 45	2935	44 40 11	2945
	JUPITER	E.	53 23 45	2629	51 45 30	2619	50 7 1	2610	48 28 19	2601
	α Pegasi	E.	70 2 31	3071	68 33 46	3070	67 5 0	3072	65 36 16	3074
7	SUN	W.	72 47 40	2861	74 20 49	2848	75 54 14	2836	77 27 55	2824
	Antares	W.	49 38 9	2537	51 18 31	2525	52 59 10	2512	54 40 6	2501
	Fomalhaut	E.	37 6 40	3043	35 37 20	3076	34 8 41	3116	32 40 51	3164
	JUPITER	E.	40 11 35	2552	38 31 34	2543	36 51 21	2534	35 10 55	2525
	α Pegasi	E.	58 13 50	3106	56 45 48	3118	55 18 0	3132	53 50 20	3148
8	SUN	W.	85 20 25	2760	86 55 45	2747	88 31 22	2735	90 7 16	2722
	Antares	W.	63 8 56	2441	61 51 33	2428	66 34 28	2416	68 17 40	2404
	JUPITER	E.	26 45 51	2487	25 4 20	2482	23 22 42	2480	21 41 1	2480
	α Pegasi	E.	46 39 3	3281	45 14 29	3292	43 50 43	3269	42 27 51	3223
	α Arietis	E.	85 30 6	2523	83 49 25	2512	82 8 29	2501	80 27 17	2489
9	SUN	W.	98 11 2	2657	99 48 39	2645	101 26 33	2632	103 4 44	2620
	Antares	W.	76 58 0	2344	78 42 56	2331	80 28 10	2320	82 13 40	2308
	α Arietis	E.	71 57 30	2438	70 14 49	2429	68 31 55	2419	66 48 48	2410
	Aldebaran	E.	102 6 20	2365	100 21 55	2353	98 37 12	2341	96 52 12	2329
10	SUN	W.	111 19 52	2559	112 59 43	2548	114 39 50	2536	116 20 13	2525
	α Aquilæ	W.	51 13 43	3777	52 29 9	3693	53 46 3	3616	55 4 20	3545
	α Arietis	E.	58 10 19	2375	56 26 8	2369	54 41 49	2364	52 57 23	2362
	Aldebaran	E.	88 2 57	2272	86 16 17	2262	84 29 21	2251	82 42 10	2241
11	SUN	W.	124 45 51	2474	126 27 41	2465	128 9 43	2457	129 51 57	2448
	α Aquilæ	W.	61 53 34	3285	63 18 27	3221	64 44 11	3181	66 10 43	3144
	α Arietis	E.	44 14 39	2264	42 30 13	2271	40 45 56	2279	39 1 51	2289
	Aldebaran	E.	73 42 40	2196	71 54 7	2188	70 5 21	2181	68 16 25	2174

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12	α Aquilæ	W.	67° 37' 59"	3111	69° 5' 55"	3080	70° 34' 29"	3053	72° 3' 37"	3036
	Fomalhaut	W.	32 58 39	2735	34 34 33	2675	36 11 47	2622	37 50 12	2575
	JUPITER	W.	23 26 32	2199	25 15 1	2186	27 3 50	2174	28 52 57	2163
	α Arietis	E.	37 18 1	2404	35 34 32	2423	33 51 30	2446	32 9 1	2475
	Aldebaran	E.	66 27 18	2167	64 38 1	2162	62 48 36	2157	60 59 3	2151
	Pollux	E.	110 29 46	2137	108 39 43	2130	106 49 30	2124	104 59 7	2118
13	α Aquilæ	W.	79 36 11	2936	81 7 44	2925	82 39 31	2916	84 11 30	2909
	Fomalhaut	W.	46 15 52	2417	47 59 2	2396	49 42 43	2378	51 26 50	2361
	JUPITER	W.	38 2 0	2196	39 52 19	2192	41 42 45	2118	43 33 17	2115
	α Pegasi	W.	33 3 24	3800	34 18 26	3639	35 36 18	3500	36 56 42	3379
	Aldebaran	E.	51 49 51	2139	49 59 52	2139	48 9 52	2139	46 19 53	2141
	Pollux	E.	95 45 9	2095	93 54 2	2092	92 2 51	2090	90 11 37	2088
14	α Aquilæ	W.	91 52 49	2904	93 25 3	2909	94 57 11	2916	96 29 9	2926
	Fomalhaut	W.	60 12 23	2309	61 58 10	2303	63 44 5	2299	65 30 6	2296
	JUPITER	W.	52 46 40	2111	54 37 22	2113	56 28 1	2115	58 18 37	2118
	α Pegasi	W.	44 8 1	2975	45 38 45	2923	47 10 35	2876	48 43 24	2836
	Aldebaran	E.	37 11 13	2168	35 21 57	2178	33 32 56	2190	31 44 14	2204
	Pollux	E.	80 55 4	2089	79 3 48	2091	77 12 35	2094	75 21 27	2098
15	Fomalhaut	W.	74 20 37	2300	76 6 36	2305	77 52 28	2310	79 38 13	2316
	JUPITER	W.	67 30 8	2143	69 20 1	2150	71 9 44	2157	72 59 16	2166
	α Pegasi	W.	56 38 30	2703	58 15 6	2687	59 52 3	2675	61 29 17	2665
	Pollux	E.	66 7 23	2124	64 17 1	2131	62 26 49	2139	60 36 49	2147
	Regulus	E.	102 25 46	2136	100 35 41	2143	98 45 47	2150	96 56 4	2159
16	Fomalhaut	W.	88 24 14	2362	90 8 44	2373	91 52 57	2386	93 36 52	2399
	JUPITER	W.	82 3 29	2216	83 51 33	2228	85 39 19	2241	87 26 46	2253
	α Pegasi	W.	69 37 49	2647	71 15 40	2649	72 53 29	2652	74 31 13	2657
	α Arietis	W.	26 0 42	2687	27 37 40	2642	29 15 38	2603	30 54 22	2581
	Pollux	E.	51 30 21	2199	49 41 52	2210	47 53 40	2223	46 5 47	2237
	Regulus	E.	87 50 55	2208	86 2 40	2220	84 14 43	2233	82 27 4	2245
17	Fomalhaut	W.	102 11 19	2478	103 53 3	2485	105 34 23	2514	107 15 17	2533
	JUPITER	W.	96 19 7	2324	98 4 31	2339	99 49 33	2355	101 34 12	2372
	α Pegasi	W.	82 37 32	2703	84 14 8	2716	85 50 27	2730	87 26 27	2744
	α Arietis	W.	39 14 30	2528	40 55 4	2527	42 35 39	2530	44 16 11	2533
	Pollux	E.	37 11 30	2310	35 25 45	2326	33 40 23	2342	31 55 25	2359
	Regulus	E.	73 33 45	2317	71 48 10	2332	70 2 57	2348	68 18 7	2364
18	JUPITER	W.	110 11 29	2457	111 53 43	2475	113 35 32	2492	115 16 56	2510
	α Pegasi	W.	95 21 12	2832	96 54 58	2852	98 28 18	2873	100 1 11	2895
	α Arietis	W.	52 36 55	2573	54 16 27	2585	55 55 43	2596	57 34 43	2609
	Aldebaran	W.	22 0 9	2626	23 38 28	2618	25 16 58	2616	26 55 31	2613
	Regulus	E.	59 39 59	2450	57 57 36	2469	56 15 39	2487	54 34 7	2505
	Spica	E.	113 42 59	2449	112 0 34	2465	110 18 32	2482	108 36 54	2499
19	JUPITER	W.	123 37 36	2602	125 16 28	2621	126 54 55	2639	128 32 57	2658
	α Arietis	W.	65 45 11	2679	67 22 19	2695	68 59 6	2710	70 35 33	2725
	Aldebaran	W.	35 6 56	2654	36 44 38	2666	38 22 4	2678	39 59 14	2690
	Regulus	E.	46 12 59	2601	44 34 5	2620	42 55 37	2640	41 17 36	2660

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12	α Aquilæ	W.	73° 33' 17"	3004	75° 3' 25"	2953	76° 33' 59"	2985	78° 4' 55"	2950
	Fomalhaut	W.	39 29 41	2535	41 10 5	2489	42 51 19	2489	44 33 16	2441
	JUPITER	W.	30 42 20	2153	32 31 58	2145	34 21 48	2138	36 11 49	2139
	α Arietis	E.	30 27 13	2512	28 46 16	2558	27 6 23	2614	25 27 47	2684
	Aldebaran	E.	59 9 22	2147	57 19 35	2145	55 29 44	2142	53 39 49	2140
	Pollux	E.	103 8 35	2112	101 17 54	2107	99 27 6	2103	97 36 11	2098
13	α Aquilæ	W.	85 43 38	2903	87 15 53	2901	88 48 11	2899	90 20 31	2901
	Fomalhaut	W.	53 11 21	2346	54 56 13	2335	56 41 22	2324	58 26 46	2315
	JUPITER	W.	45 23 53	2113	47 14 32	2111	49 5 14	2111	50 55 57	2111
	α Pegasi	W.	38 19 22	2376	39 44 2	2184	41 10 30	2105	42 38 33	2036
	Aldebaran	E.	44 29 57	2144	42 40 5	2148	40 50 19	2153	39 0 41	2180
	Pollux	E.	88 20 20	2087	86 29 1	2087	84 37 42	2087	82 46 23	2087
14	α Aquilæ	W.	98 0 55	2938	99 32 26	2961	101 3 40	2967	102 34 34	2985
	Fomalhaut	W.	67 16 12	2394	69 2 20	2385	70 48 27	2396	72 34 33	2397
	JUPITER	W.	60 9 8	2122	61 59 34	2196	63 49 53	2131	65 40 5	2137
	α Pegasi	W.	50 17 5	2901	51 51 32	2771	53 26 38	2744	55 2 19	2732
	Aldebaran	E.	29 55 53	2322	28 7 58	2243	26 20 34	2267	24 33 46	2285
	Pollux	E.	73 30 24	2101	71 39 27	2106	69 48 37	2111	67 57 55	2118
15	Fomalhaut	W.	81 23 49	2324	83 9 14	2331	84 54 28	2341	86 39 28	2350
	JUPITER	W.	74 48 35	2174	76 37 41	2184	78 26 32	2194	80 15 8	2204
	α Pegasi	W.	63 6 44	2657	64 44 22	2652	66 22 7	2648	67 59 57	2646
	Pollux	E.	58 47 2	2157	56 57 29	2167	55 8 11	2176	53 19 8	2187
	Regulus	E.	95 6 34	2167	93 17 17	2176	91 28 14	2187	89 39 27	2197
	16	Fomalhaut	W.	95 20 28	2413	97 3 44	2429	98 46 38	2444	100 29 10
JUPITER		W.	89 13 55	2306	91 0 44	2320	92 47 13	2324	94 33 21	2339
α Pegasi		W.	76 8 50	2664	77 46 18	2672	79 23 36	2681	81 0 41	2692
α Arietis		W.	32 33 43	2561	34 13 31	2547	35 53 39	2538	37 34 0	2531
Pollux		E.	44 18 14	2250	42 31 1	2264	40 44 9	2279	38 57 38	2294
Regulus		E.	80 39 43	2258	78 52 42	2272	77 6 2	2287	75 19 43	2301
17	Fomalhaut	W.	108 55 44	2553	110 35 43	2574	112 15 13	2596	113 54 14	2618
	JUPITER	W.	103 18 27	2389	105 2 18	2405	106 45 46	2422	108 28 50	2439
	α Pegasi	W.	89 2 8	2760	90 37 28	2777	92 12 26	2795	93 47 1	2813
	α Arietis	W.	45 56 39	2538	47 36 59	2545	49 17 10	2553	50 57 9	2563
	Pollux	E.	30 10 52	2377	28 26 44	2396	26 43 3	2414	24 59 48	2433
	Regulus	E.	66 33 41	2381	64 49 39	2398	63 6 1	2415	61 22 48	2432
18	JUPITER	W.	116 57 55	2529	118 38 28	2547	120 18 36	2565	121 58 19	2584
	α Pegasi	W.	101 33 36	2918	103 5 32	2941	104 36 59	2965	106 7 55	2991
	α Arietis	W.	59 13 26	2622	60 51 51	2636	62 29 57	2650	64 7 44	2665
	Aldebaran	W.	28 34 4	2620	30 12 32	2636	31 50 51	2634	33 29 0	2643
	Regulus	E.	52 53 1	2524	51 12 21	2543	49 32 7	2562	47 52 20	2581
	Spica	E.	106 55 40	2517	105 14 50	2535	103 34 25	2552	101 54 24	2569
19	JUPITER	W.	130 10 33	2677	131 47 44	2695	133 24 31	2713	135 0 53	2731
	α Arietis	W.	72 11 39	2741	73 47 25	2756	75 22 50	2772	76 57 54	2788
	Aldebaran	W.	41 36 7	2704	43 12 42	2716	44 49 0	2731	46 24 59	2745
	Regulus	E.	39 40 2	2680	38 2 55	2701	36 26 16	2721	34 50 4	2741

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19	Spica	E.	100 14 47	2587	98 35 34	2804	96 56 45	2822	95 18 20	2840
	Sun	E.	134 35 5	2912	133 3 1	2931	131 31 21	2950	130 0 6	2969
20	α Arietis	W.	78 32 37	2804	80 7 0	2820	81 41 2	2835	83 14 44	2851
	Aldebaran	W.	48 0 39	2760	49 36 0	2774	51 11 2	2788	52 45 45	2803
	Regulus	E.	33 14 19	2763	31 39 3	2785	30 4 15	2807	28 29 56	2831
	Spica	E.	87 12 7	2725	85 36 1	2742	84 0 17	2759	82 24 55	2775
	Sun	E.	122 29 44	3062	121 0 48	3081	119 32 15	3098	118 4 3	3116
21	α Arietis	W.	90 58 16	2927	92 30 1	2942	94 1 27	2956	95 32 35	2969
	Aldebaran	W.	60 34 44	2872	62 7 39	2886	63 40 16	2898	65 12 37	2911
	Pollux	W.	16 18 6	2876	17 50 56	2884	19 23 35	2894	20 56 2	2904
	Spica	E.	74 33 19	2853	73 0 0	2868	71 27 0	2882	69 54 18	2896
	Sun	E.	110 48 19	3199	109 22 9	3215	107 56 18	3231	106 30 45	3246
22	α Arietis	W.	103 3 57	3037	104 33 24	3050	106 2 35	3062	107 31 31	3073
	Aldebaran	W.	72 50 25	2971	74 21 14	2981	75 51 50	2992	77 22 13	3001
	Pollux	W.	28 35 6	2954	30 6 16	2965	31 37 13	2974	33 7 58	2983
	Spica	E.	62 15 8	2981	60 44 6	2973	59 13 19	2985	57 42 47	2995
	Sun	E.	99 27 14	3313	98 3 18	3326	96 39 37	3338	95 16 9	3349
23	Aldebaran	W.	84 51 13	3045	86 20 30	3053	87 49 37	3060	89 18 36	3066
	Pollux	W.	40 38 59	3025	42 8 41	3032	43 38 14	3039	45 7 39	3044
	Spica	E.	50 13 22	3045	48 44 5	3055	47 15 0	3063	45 46 5	3070
	Sun	E.	88 21 53	3326	86 59 34	3407	85 37 25	3414	84 15 24	3422
24	Aldebaran	W.	96 41 41	3092	98 10 0	3096	99 38 14	3100	101 6 24	3108
	Pollux	W.	52 33 2	3069	54 1 50	3073	55 30 33	3075	56 59 13	3078
	Regulus	W.	16 49 46	3239	18 15 9	3218	19 40 57	3201	21 7 5	3187
	Spica	E.	38 23 51	3108	36 55 51	3114	35 27 59	3121	34 0 15	3126
	Sun	E.	77 27 12	3449	76 5 51	3454	74 44 35	3457	73 23 23	3460
25	Aldebaran	W.	108 26 31	3111	109 54 27	3111	111 22 23	3119	112 50 18	3112
	Pollux	W.	64 21 57	3082	65 50 27	3083	67 18 57	3082	68 47 27	3082
	Regulus	W.	28 21 4	3146	29 48 18	3139	31 15 40	3134	32 43 8	3130
	Sun	E.	66 38 0	3467	65 16 59	3467	63 55 58	3467	62 34 57	3465
26	Pollux	W.	76 10 30	3070	77 39 16	3067	79 8 6	3063	80 37 1	3059
	Regulus	W.	40 2 4	3103	41 30 10	3097	42 58 23	3092	44 26 42	3086
	Sun	E.	55 49 23	3454	54 28 8	3450	53 6 48	3446	51 45 24	3441
27	Pollux	W.	88 3 1	3033	89 32 33	3026	91 2 13	3021	92 32 0	3014
	Regulus	W.	51 50 12	3054	53 19 18	3047	54 48 33	3039	56 17 57	3032
	Sun	E.	44 56 57	3414	43 34 56	3408	42 12 48	3400	40 50 32	3393
28	Pollux	W.	100 3 9	2977	101 33 51	2969	103 4 43	2960	104 35 46	2952
	Regulus	W.	63 47 20	2992	65 17 43	2983	66 48 17	2975	68 19 1	2965
	Sun	E.	33 57 4	3353	32 33 54	3345	31 10 35	3337	29 47 6	3327
29	Regulus	W.	75 55 35	2920	77 27 29	2910	78 59 25	2901	80 31 53	2891
	Spica	W.	22 9 7	3014	23 39 3	2993	25 9 25	2973	26 40 12	2954
	Sun	E.	22 47 2	3282	21 22 20	3272	19 57 45	3263	18 32 50	3254

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
19	Spica	E.	93° 40' 19"	2857	92° 2' 41"	2875	90° 25' 27"	2892	88° 48' 36"	2708
	Sun	E.	128 29 15	2888	126 58 47	3007	125 28 43	3026	123 59 2	3044
20	α Arietis	W.	84 48 6	2888	86 21 8	2883	87 53 50	2897	89 26 13	2912
	Aldebaran	W.	54 20 9	2817	55 54 15	2831	57 28 2	2845	59 1 32	2859
	Regulus	E.	26 56 8	2855	25 22 51	2881	23 50 8	2908	22 17 59	2937
	Spica	E.	80 49 54	2792	79 15 15	2807	77 40 56	2823	76 6 58	2838
	Sun	E.	116 36 13	3133	115 8 44	3151	113 41 36	3168	112 14 48	3183
21	α Arietis	W.	97 3 26	2994	98 33 50	2997	100 4 15	3011	101 34 14	3024
	Aldebaran	W.	66 44 42	2924	68 16 31	2936	69 48 4	2948	71 19 22	2960
	Pollux	W.	22 28 16	2813	24 0 18	2924	25 32 7	2934	27 3 43	2944
	Spica	E.	68 21 54	2909	66 49 47	2924	65 17 58	2936	63 46 25	2949
	Sun	E.	105 5 30	3260	103 40 32	3274	102 15 50	3288	100 51 24	3301
22	α Arietis	W.	109 0 13	3085	110 28 41	3097	111 56 54	3108	113 24 54	3120
	Aldebaran	W.	78 52 24	3011	80 22 23	3021	81 52 10	3029	83 21 47	3038
	Pollux	W.	34 38 32	2993	36 8 54	3001	37 39 6	3009	39 9 7	3017
	Spica	E.	56 12 28	3006	54 42 23	3016	53 12 30	3026	51 42 50	3036
	Sun	E.	93 52 54	3360	92 29 52	3370	91 7 1	3380	89 44 22	3389
23	Aldebaran	W.	90 47 27	3072	92 16 11	3078	93 44 47	3083	95 13 17	3088
	Pollux	W.	46 36 57	3051	48 6 7	3056	49 35 11	3060	51 4 9	3065
	Spica	E.	44 17 19	3078	42 48 43	3087	41 20 17	3094	39 52 0	3101
	Sun	E.	82 53 32	3428	81 31 47	3434	80 10 9	3440	78 48 38	3445
24	Aldebaran	W.	102 34 31	3105	104 2 34	3107	105 30 35	3109	106 58 34	3110
	Pollux	W.	58 27 50	3080	59 56 24	3082	61 24 56	3082	62 53 27	3083
	Regulus	W.	22 33 30	3176	24 0 8	3166	25 26 58	3158	26 53 57	3152
	Spica	E.	32 32 39	3135	31 5 12	3142	29 37 53	3149	28 10 43	3158
	Sun	E.	72 2 14	3463	70 41 8	3464	69 20 4	3465	67 59 1	3467
25	Aldebaran	W.	114 18 13	3111	115 46 9	3110	117 14 6	3109	118 42 5	3107
	Pollux	W.	70 15 59	3080	71 44 33	3078	73 13 9	3076	74 41 48	3073
	Regulus	W.	34 10 43	3194	35 38 24	3119	37 6 11	3114	38 34 4	3108
	Sun	E.	61 13 54	3464	59 52 50	3462	58 31 43	3460	57 10 34	3458
26	Pollux	W.	82 6 1	3055	83 35 6	3049	85 4 18	3044	86 33 36	3039
	Regulus	W.	45 55 9	3080	47 23 43	3073	48 52 25	3068	50 21 14	3060
	Sun	E.	50 23 54	3437	49 2 19	3431	47 40 38	3426	46 18 51	3420
27	Pollux	W.	94 1 56	3006	95 32 1	3000	97 2 14	2992	98 32 37	2985
	Regulus	W.	57 47 30	3094	59 17 13	3017	60 47 5	3009	62 17 7	3000
	Sun	E.	39 28 8	3386	38 5 35	3379	36 42 54	3371	35 20 4	3362
28	Pollux	W.	106 6 59	2943	107 38 23	2935	109 9 58	2926	110 41 44	2916
	Regulus	W.	69 49 57	2957	71 21 4	2947	72 52 23	2939	74 23 53	2929
	Sun	E.	28 23 26	3319	26 59 36	3309	25 35 35	3300	24 11 24	3291
29	Regulus	W.	82 4 24	2981	83 37 7	2972	85 10 2	2962	86 43 10	2952
	Spica	W.	28 11 22	2937	29 42 54	2920	31 14 47	2905	32 46 59	2891
	Sun	E.	17 7 45	3246	15 42 30	3237	14 17 5	3220	12 51 31	3203

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Added to Apparent Time.				
Tues.	1	^h 16 ^m 29 ^s 19.58	10.802	S. 21° 49' 8".5	-23.35	16' 15.89	70.29	^m 10 ^s 52.11		0.943	
Wed.	2	16 33 39.16	10.829	21 58 16.5	22.30	16 16.04	70.38	10 29.15		0.969	
Thur.	3	16 37 59.36	10.854	22 6 59.0	21.23	16 16.19	70.46	10 5.58		0.994	
Frid.	4	16 42 20.15	10.878	22 15 15.8	-20.16	16 16.33	70.54	9 41.41		1.018	
Sat.	5	16 46 41.51	10.901	22 23 6.7	19.07	16 16.47	70.62	9 16.67		1.041	
SUN.	6	16 51 3.40	10.923	22 30 31.3	17.97	16 16.61	70.69	8 51.40		1.063	
Mon.	7	16 55 25.80	10.943	22 37 29.5	-16.86	16 16.74	70.76	8 25.64		1.083	
Tues.	8	16 59 48.68	10.962	22 44 1.0	15.75	16 16.87	70.83	7 59.40		1.102	
Wed.	9	17 4 12.01	10.980	22 50 5.7	14.63	16 17.00	70.89	7 32.70		1.120	
Thur.	10	17 8 35.75	10.997	22 55 43.3	-13.50	16 17.12	70.95	7 5.58		1.137	
Frid.	11	17 12 59.89	11.012	23 0 53.6	12.36	16 17.24	71.00	6 38.08		1.152	
Sat.	12	17 17 24.40	11.027	23 5 36.5	11.22	16 17.35	71.05	6 10.21		1.167	
SUN.	13	17 21 49.24	11.040	23 9 51.9	-10.07	16 17.45	71.10	5 42.00		1.180	
Mon.	14	17 26 14.39	11.053	23 13 39.7	8.91	16 17.55	71.14	5 13.49		1.192	
Tues.	15	17 30 39.82	11.064	23 16 59.6	7.75	16 17.64	71.18	4 44.70		1.204	
Wed.	16	17 35 5.50	11.074	23 19 51.6	-6.58	16 17.73	71.21	4 15.65		1.214	
Thur.	17	17 39 31.41	11.083	23 22 15.7	5.41	16 17.81	71.24	3 46.38		1.222	
Frid.	18	17 43 57.51	11.091	23 24 11.7	4.24	16 17.88	71.26	3 16.91		1.230	
Sat.	19	17 48 23.78	11.097	23 25 39.6	-3.07	16 17.95	71.28	2 47.28		1.236	
SUN.	20	17 52 50.18	11.103	23 26 39.3	1.90	16 18.01	71.29	2 17.52		1.242	
Mon.	21	17 57 16.69	11.107	23 27 10.8	-0.73	16 18.07	71.30	1 47.65		1.246	
Tues.	22	18 1 43.28	11.109	23 27 14.1	+0.45	16 18.12	71.30	1 17.71		1.248	
Wed.	23	18 6 9.90	11.110	23 26 49.1	1.63	16 18.16	71.30	0 47.73		1.249	
Thur.	24	18 10 36.52	11.109	23 25 55.8	2.81	16 18.20	71.29	0 17.75		1.248	
Frid.	25	18 15 3.11	11.107	23 24 34.2	+3.99	16 18.24	71.28	0 12.20		1.246	
Sat.	26	18 19 29.64	11.103	23 22 44.3	5.17	16 18.27	71.27	0 42.09		1.242	
SUN.	27	18 23 56.06	11.098	23 20 26.2	6.34	16 18.30	71.25	1 11.87		1.237	
Mon.	28	18 28 22.34	11.091	23 17 39.9	+7.51	16 18.32	71.23	1 41.51		1.231	
Tues.	29	18 32 48.45	11.083	23 14 25.5	8.67	16 18.34	71.20	2 10.98		1.223	
Wed.	30	18 37 14.34	11.074	23 10 43.2	9.84	16 18.35	71.17	2 40.23		1.213	
Thur.	31	18 41 39.98	11.063	23 6 33.0	11.00	16 18.36	71.13	3 9.23		1.202	
Frid.	32	18 46 5.33	11.050	S. 23 1 54.9	+12.16	16 18.37	71.09	3 37.94		1.189	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.
 The sign — prefixed to the hourly change of declination indicates that south declinations are increasing;
 the sign + indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Subtracted from Mean Time.			
Tues.	1	^h 16 ^m 29 ^s 21.54	10.800	S. 21° 49' 12".7	-23.34	^m 10 ^s 51.94	0.943	^h 16 ^m 40 ^s 13.48	
Wed.	2	16 33 41.06	10.826	21 58 20.4	22.29	10 28.98	0.969	16 44 10.04	
Thur.	3	16 38 1.19	10.851	22 7 2.6	21.23	10 5.41	0.994	16 48 6.60	
Frid.	4	16 42 21.91	10.875	22 15 19.1	-20.15	9 41.25	1.018	16 52 3.16	
Sat.	5	16 46 43.20	10.898	22 23 9.6	19.06	9 16.52	1.041	16 55 59.72	
SUN.	6	16 51 5.02	10.920	22 30 33.9	17.96	8 51.25	1.063	16 59 56.27	
Mon.	7	16 55 27.34	10.940	22 37 31.8	-16.85	8 25.49	1.083	17 3 52.83	
Tues.	8	16 59 50.14	10.959	22 44 3.1	15.74	7 59.25	1.102	17 7 49.39	
Wed.	9	17 4 13.39	10.977	22 50 7.5	14.62	7 32.56	1.120	17 11 45.95	
Thur.	10	17 8 37.05	10.994	22 55 44.8	-13.49	7 5.45	1.137	17 15 42.50	
Frid.	11	17 13 1.11	11.009	23 0 54.9	12.35	6 37.95	1.152	17 19 39.06	
Sat.	12	17 17 25.53	11.024	23 5 37.6	11.21	6 10.09	1.167	17 23 35.62	
SUN.	13	17 21 50.29	11.037	23 9 52.8	-10.06	5 41.89	1.180	17 27 32.18	
Mon.	14	17 26 15.35	11.050	23 13 40.4	8.90	5 13.39	1.192	17 31 28.74	
Tues.	15	17 30 40.69	11.061	23 17 0.2	7.74	4 44.61	1.204	17 35 25.30	
Wed.	16	17 35 6.29	11.071	23 19 52.1	- 6.57	4 15.57	1.214	17 39 21.86	
Thur.	17	17 39 32.11	11.079	23 22 16.1	5.40	3 46.31	1.222	17 43 18.42	
Frid.	18	17 43 58.12	11.087	23 24 12.0	4.24	3 16.85	1.230	17 47 14.97	
Sat.	19	17 48 24.30	11.093	23 25 39.8	- 3.07	2 47.23	1.236	17 51 11.53	
SUN.	20	17 52 50.61	11.099	23 26 39.5	1.90	2 17.48	1.242	17 55 8.09	
Mon.	21	17 57 17.03	11.103	23 27 10.9	- 0.73	1 47.62	1.246	17 59 4.65	
Tues.	22	18 1 43.52	11.105	23 27 14.1	+ 0.45	1 17.69	1.248	18 3 1.21	
Wed.	23	18 6 10.05	11.106	23 26 49.1	1.63	0 47.72	1.249	18 6 57.77	
Thur.	24	18 10 36.58	11.105	23 25 55.8	2.81	0 17.75	1.248	18 10 54.33	
Frid.	25	18 15 3.08	11.103	23 24 34.2	+ 3.99	0 12.19	1.246	18 14 50.89	
Sat.	26	18 19 29.51	11.099	23 22 44.3	5.17	0 42.07	1.242	18 18 47.44	
SUN.	27	18 23 55.84	11.094	23 20 26.3	6.34	1 11.84	1.237	18 22 44.00	
Mon.	28	18 28 22.03	11.088	23 17 40.1	+ 7.51	1 41.47	1.231	18 26 40.56	
Tues.	29	18 32 48.05	11.080	23 14 25.9	8.67	2 10.93	1.223	18 30 37.12	
Wed.	30	18 37 13.85	11.070	23 10 43.6	9.84	2 40.17	1.213	18 34 33.68	
Thur.	31	18 41 39.40	11.059	23 6 33.5	11.00	3 9.16	1.202	18 38 30.24	
Frid.	32	18 46 4.66	11.046	S. 23 1 55.6	+12.16	3 37.87	1.189	18 42 26.79	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
 The sign — prefixed to the hourly change of declination indicates that south declinations are increasing; the sign + indicates that south declinations are decreasing.

Diff. for 1 hour,
 +9".8565.
 (Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S					Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	335	249° 2' 56".4	2' 25".2	152".20	— 0.31	9.9937740	—28.2	^h 7 ^m 18 ^s 34.47	
2	336	250 3 49.6	3 18.2	152.24	0.43	9.9937068	27.7	7 14 38.56	
3	337	251 4 43.8	4 12.3	152.28	0.54	9.9936410	27.1	7 10 42.65	
4	338	252 5 39.0	5 7.3	152.31	— 0.62	9.9935766	—26.5	7 6 46.74	
5	339	253 6 35.0	6 3.1	152.35	0.67	9.9935137	25.9	7 2 50.82	
6	340	254 7 31.8	6 59.7	152.38	0.70	9.9934524	25.2	6 58 54.91	
7	341	255 8 29.3	7 57.0	152.41	— 0.70	9.9933927	—24.5	6 54 59.00	
8	342	256 9 27.4	8 55.0	152.44	0.67	9.9933349	23.7	6 51 3.09	
9	343	257 10 26.2	9 53.6	152.47	0.60	9.9932792	22.8	6 47 7.18	
10	344	258 11 25.6	10 52.8	152.49	— 0.51	9.9932256	—21.9	6 43 11.27	
11	345	259 12 25.5	11 52.5	152.51	0.40	9.9931744	20.9	6 39 15.36	
12	346	260 13 25.9	12 52.7	152.53	0.28	9.9931256	19.8	6 35 19.44	
13	347	261 14 26.9	13 53.5	152.56	— 0.15	9.9930794	—18.7	6 31 23.52	
14	348	262 15 28.5	14 54.9	152.58	— 0.01	9.9930359	17.6	6 27 27.61	
15	349	263 16 30.7	15 56.9	152.61	+ 0.12	9.9929951	16.5	6 23 31.70	
16	350	264 17 33.6	16 59.6	152.63	+ 0.23	9.9929570	—15.3	6 19 35.79	
17	351	265 18 37.1	18 3.0	152.66	0.32	9.9929217	14.1	6 15 39.87	
18	352	266 19 41.3	19 7.0	152.69	0.39	9.9928891	13.0	6 11 43.96	
19	353	267 20 46.2	20 11.7	152.72	+ 0.43	9.9928592	—11.9	6 7 48.05	
20	354	268 21 51.9	21 17.2	152.75	0.45	9.9928319	10.9	6 3 52.14	
21	355	269 22 58.3	22 23.4	152.78	0.43	9.9928071	9.8	5 59 56.22	
22	356	270 24 5.4	23 30.3	152.81	+ 0.38	9.9927848	— 8.8	5 56 0.31	
23	357	271 25 13.1	24 37.8	152.84	0.31	9.9927649	7.9	5 52 4.40	
24	358	272 26 21.5	25 46.0	152.86	0.22	9.9927472	7.0	5 48 8.49	
25	359	273 27 30.6	26 54.9	152.89	+ 0.10	9.9927315	— 6.2	5 44 12.57	
26	360	274 28 40.2	28 4.4	152.91	— 0.03	9.9927177	5.4	5 40 16.66	
27	361	275 29 50.3	29 14.3	152.93	0.16	9.9927058	4.6	5 36 20.75	
28	362	276 31 0.8	30 24.6	152.94	— 0.29	9.9926958	— 3.8	5 32 24.84	
29	363	277 32 11.6	31 35.2	152.95	0.41	9.9926875	3.1	5 28 28.92	
30	364	278 33 22.6	32 46.0	152.96	0.51	9.9926808	2.4	5 24 33.01	
31	365	279 34 33.8	33 57.0	152.96	0.60	9.9926758	1.7	5 20 37.10	
32	366	280 35 45.0	35 8.0	152.96	— 0.66	9.9926724	— 1.0	5 16 41.19	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.									Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							h m	m	d
1	15 16.4	15 20.5	55 56.7	+1.25	56 11.7	+1.26	0 41.8	2.28	0.0
2	15 24.6	15 28.7	56 26.8	1.26	56 41.8	1.24	1 38.0	2.37	1.0
3	15 32.7	15 36.6	56 56.5	1.22	57 10.9	1.19	2 35.6	2.39	2.0
4	15 40.5	15 44.2	57 24.9	+1.16	57 38.6	+1.13	3 32.7	2.34	3.0
5	15 47.8	15 51.2	57 51.8	1.09	58 4.5	1.05	4 27.9	2.25	4.0
6	15 54.6	15 57.8	58 16.8	1.01	58 28.6	0.97	5 20.5	2.15	5.0
7	16 0.9	16 3.8	58 39.9	+0.92	58 50.6	+0.87	6 10.9	2.07	6.0
8	16 6.5	16 9.0	59 0.6	0.80	59 9.8	0.73	6 59.8	2.03	7.0
9	16 11.3	16 13.2	59 18.0	0.64	59 25.0	0.53	7 48.5	2.05	8.0
10	16 14.7	16 15.8	59 30.6	+0.40	59 34.6	+0.26	8 38.2	2.12	9.0
11	16 16.3	16 16.4	59 36.7	+0.10	59 36.8	-0.10	9 30.2	2.22	10.0
12	16 15.7	16 14.5	59 34.5	-0.30	59 29.8	0.50	10 25.0	2.34	11.0
13	16 12.5	16 9.8	59 22.6	-0.71	59 12.8	-0.92	11 22.7	2.44	12.0
14	16 6.5	16 2.5	59 0.6	1.12	58 46.0	1.31	12 22.1	2.47	13.0
15	15 58.0	15 52.9	58 29.3	1.47	58 10.7	1.61	13 21.2	2.41	14.0
16	15 47.5	15 41.7	57 50.7	-1.71	57 29.6	-1.79	14 17.9	2.28	15.0
17	15 35.8	15 29.8	57 7.9	1.82	56 45.9	1.82	15 10.6	2.11	16.0
18	15 23.9	15 18.2	56 24.2	1.79	56 3.1	1.72	15 59.2	1.94	17.0
19	15 12.7	15 7.7	55 43.1	-1.61	55 24.5	-1.49	16 43.9	1.80	18.0
20	15 3.0	14 59.0	55 7.5	1.34	54 52.5	1.16	17 25.7	1.71	19.0
21	14 55.5	14 52.6	54 39.7	0.97	54 29.3	0.77	18 5.8	1.66	20.0
22	14 50.5	14 49.1	54 21.4	-0.56	54 16.1	-0.33	18 45.2	1.65	21.0
23	14 48.3	14 48.3	54 13.5	-0.11	54 13.5	+0.12	19 25.1	1.70	22.0
24	14 49.1	14 50.5	54 16.2	+0.34	54 21.4	0.54	20 6.7	1.79	23.0
25	14 52.6	14 55.3	54 29.1	+0.75	54 39.2	+0.94	20 51.0	1.92	24.0
26	14 58.7	15 2.5	54 51.4	1.10	55 5.5	1.25	21 39.0	2.08	25.0
27	15 6.8	15 11.5	55 21.2	1.37	55 38.4	1.48	22 31.1	-2.25	26.0
28	15 16.4	15 21.6	55 56.6	+1.56	56 15.6	+1.60	23 27.1	2.38	27.0
29	15 26.8	15 32.1	56 34.9	1.62	56 54.3	1.61	0 25.5	2.45	28.0
30	15 37.3	15 42.3	57 13.4	1.56	57 31.8	1.50			29.0
31	15 47.1	15 51.5	57 49.2	1.40	58 5.4	1.29	1 24.5	2.47	0.4
32	15 55.5	15 59.0	58 20.1	+1.16	58 33.1	+1.02			1.4

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 1.					THURSDAY 3.				
0	^h 16 ^m 29 ^s 5.53	2.9368	S. 23° 0' 23.1"	7.899	0	^h 18 ^m 22 ^s 22.32	2.4543	S. 26° 39' 40.3"	1.076
1	16 31 19.92	2.9497	23 8 1.2	7.579	1	18 24 49.65	2.4568	26 40 40.1	0.918
2	16 33 34.66	2.9487	23 15 32.5	7.465	2	18 27 17.11	2.4587	26 41 30.4	0.759
3	16 35 49.76	2.9546	23 22 57.0	7.350	3	18 29 44.70	2.4606	26 42 11.2	0.600
4	16 38 5.21	2.9604	23 30 14.5	7.233	4	18 32 12.41	2.4626	26 42 42.4	0.441
5	16 40 21.00	2.9661	23 37 25.0	7.116	5	18 34 40.24	2.4647	26 43 4.1	0.282
6	16 42 37.14	2.9719	23 44 28.4	6.997	6	18 37 8.17	2.4663	26 43 16.3	- 0.123
7	16 44 53.62	2.9776	23 51 24.6	6.877	7	18 39 36.20	2.4679	26 43 18.9	+ 0.037
8	16 47 10.45	2.9833	23 58 13.6	6.756	8	18 42 4.32	2.4694	26 43 11.8	0.198
9	16 49 27.62	2.9889	24 4 55.3	6.633	9	18 44 32.53	2.4707	26 42 55.1	0.359
10	16 51 45.12	2.9945	24 11 29.6	6.509	10	18 47 0.81	2.4719	26 42 28.7	0.520
11	16 54 2.96	2.3001	24 17 56.4	6.384	11	18 49 29.16	2.4731	26 41 52.7	0.681
12	16 56 21.13	2.3056	24 24 15.7	6.258	12	18 51 57.58	2.4741	26 41 7.0	0.842
13	16 58 39.63	2.3110	24 30 27.4	6.131	13	18 54 26.05	2.4749	26 40 11.6	1.004
14	17 0 58.45	2.3164	24 36 31.4	6.003	14	18 56 54.57	2.4757	26 39 6.5	1.165
15	17 3 17.60	2.3218	24 42 27.8	5.875	15	18 59 23.13	2.4763	26 37 51.8	1.326
16	17 5 37.07	2.3272	24 48 16.4	5.744	16	19 1 51.72	2.4768	26 36 27.4	1.488
17	17 7 56.86	2.3324	24 53 57.1	5.612	17	19 4 20.34	2.4772	26 34 53.2	1.651
18	17 10 16.96	2.3376	24 59 29.9	5.480	18	19 6 48.98	2.4774	26 33 9.3	1.813
19	17 12 37.37	2.3427	25 4 54.7	5.347	19	19 9 17.63	2.4775	26 31 15.7	1.974
20	17 14 58.08	2.3477	25 10 11.5	5.212	20	19 11 46.28	2.4775	26 29 12.4	2.136
21	17 17 19.10	2.3527	25 15 20.1	5.075	21	19 14 14.93	2.4774	26 26 59.4	2.297
22	17 19 40.41	2.3576	25 20 20.5	4.938	22	19 16 43.57	2.4772	26 24 36.7	2.459
23	17 22 2.01	2.3625	S. 25° 25' 12.7"	4.801	23	19 19 12.19	2.4768	S. 26° 22' 4.3"	2.620
WEDNESDAY 2.					FRIDAY 4.				
0	17 24 23.91	2.3673	S. 25° 29' 56.6"	4.662	0	19 21 40.79	2.4764	S. 26° 19' 22.3"	2.781
1	17 26 46.09	2.3720	25 34 32.1	4.522	1	19 24 9.36	2.4758	26 16 30.6	2.942
2	17 29 8.55	2.3766	25 38 59.2	4.382	2	19 26 37.89	2.4751	26 13 29.2	3.104
3	17 31 31.28	2.3811	25 43 17.9	4.240	3	19 29 6.37	2.4742	26 10 18.1	3.265
4	17 33 54.28	2.3855	25 47 28.0	4.097	4	19 31 34.80	2.4733	26 6 57.4	3.426
5	17 36 17.54	2.3899	25 51 29.5	3.953	5	19 34 3.17	2.4723	26 3 27.1	3.588
6	17 38 41.07	2.3943	25 55 22.4	3.809	6	19 36 31.48	2.4719	25 59 47.1	3.748
7	17 41 4.85	2.3984	25 59 6.6	3.663	7	19 38 59.72	2.4700	25 55 57.6	3.905
8	17 43 28.88	2.4025	26 2 42.0	3.517	8	19 41 27.88	2.4686	25 51 58.5	4.065
9	17 45 53.15	2.4065	26 6 8.6	3.370	9	19 43 55.95	2.4671	25 47 49.8	4.224
10	17 48 17.66	2.4104	26 9 26.4	3.222	10	19 46 23.93	2.4655	25 43 31.6	4.382
11	17 50 42.40	2.4142	26 12 35.3	3.073	11	19 48 51.81	2.4638	25 39 4.0	4.539
12	17 53 7.36	2.4179	26 15 35.2	2.923	12	19 51 19.59	2.4621	25 34 26.9	4.697
13	17 55 32.54	2.4215	26 18 26.1	2.773	13	19 53 47.26	2.4602	25 29 40.3	4.855
14	17 57 57.94	2.4251	26 21 8.0	2.622	14	19 56 14.81	2.4582	25 24 44.3	5.011
15	18 0 23.55	2.4285	26 23 40.8	2.470	15	19 58 42.24	2.4562	25 19 39.0	5.166
16	18 2 49.26	2.4318	26 26 4.4	2.318	16	20 1 9.55	2.4540	25 14 24.4	5.321
17	18 5 15.36	2.4350	26 28 18.9	2.165	17	20 3 36.72	2.4517	25 9 0.5	5.476
18	18 7 41.56	2.4382	26 30 24.2	2.011	18	20 6 3.75	2.4493	25 3 27.3	5.631
19	18 10 7.94	2.4411	26 32 20.2	1.856	19	20 8 30.64	2.4469	24 57 44.8	5.784
20	18 12 34.49	2.4439	26 34 6.9	1.701	20	20 10 57.38	2.4443	24 51 53.2	5.937
21	18 15 1.21	2.4467	26 35 44.3	1.545	21	20 13 23.96	2.4417	24 45 52.4	6.089
22	18 17 28.09	2.4493	26 37 12.3	1.389	22	20 15 50.38	2.4390	24 39 42.5	6.240
23	18 19 55.13	2.4519	26 38 31.0	1.233	23	20 18 16.64	2.4362	24 33 23.6	6.391
24	18 22 22.32	2.4543	S. 26° 39' 40.3"	1.076	24	20 20 42.73	2.4333	S. 24° 26' 55.6"	6.542

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 5.					MONDAY 7.				
0	20 20 42.73	2.4333	S. 24° 26' 55.6"	6.542	0	22 13 18.60	2.2508	S. 16° 38' 12.8"	12.562
1	20 23 8.64	2.4304	24 20 18.6	6.601	1	22 15 33.53	2.2470	16 25 36.2	12.658
2	20 25 34.38	2.4275	24 13 32.7	6.839	2	22 17 48.24	2.2432	16 12 53.9	12.753
3	20 27 59.94	2.4244	24 6 37.9	6.987	3	22 20 2.72	2.2395	16 0 5.9	12.847
4	20 30 25.31	2.4213	23 59 34.3	7.134	4	22 22 16.98	2.2357	15 47 12.3	12.939
5	20 32 50.49	2.4181	23 52 21.9	7.280	5	22 24 31.01	2.2320	15 34 13.2	13.030
6	20 35 15.48	2.4148	23 45 0.7	7.426	6	22 26 44.82	2.2284	15 21 8.7	13.120
7	20 37 40.27	2.4115	23 37 30.8	7.570	7	22 28 58.42	2.2248	15 7 58.8	13.209
8	20 40 4.86	2.4081	23 29 52.3	7.712	8	22 31 11.80	2.2212	14 54 43.6	13.296
9	20 42 29.24	2.4046	23 22 5.3	7.854	9	22 33 24.97	2.2177	14 41 23.3	13.381
10	20 44 53.41	2.4011	23 14 9.8	7.996	10	22 35 37.93	2.2142	14 27 57.9	13.466
11	20 47 17.37	2.3975	23 6 5.8	8.137	11	22 37 50.68	2.2108	14 14 27.4	13.540
12	20 49 41.11	2.3939	22 57 53.3	8.277	12	22 40 3.23	2.2075	14 0 51.9	13.622
13	20 52 4.64	2.3902	22 49 32.5	8.416	13	22 42 15.58	2.2042	13 47 11.6	13.712
14	20 54 27.94	2.3865	22 41 3.4	8.553	14	22 44 27.73	2.2009	13 33 26.5	13.792
15	20 56 51.02	2.3827	22 32 26.1	8.690	15	22 46 39.69	2.1977	13 19 36.6	13.871
16	20 59 13.87	2.3790	22 23 40.6	8.826	16	22 48 51.45	2.1945	13 5 42.1	13.946
17	21 1 36.50	2.3752	22 14 47.0	8.960	17	22 51 3.03	2.1914	12 51 43.1	14.021
18	21 3 58.90	2.3713	22 5 45.4	9.093	18	22 53 14.42	2.1883	12 37 39.6	14.095
19	21 6 21.06	2.3674	21 56 35.8	9.226	19	22 55 25.63	2.1853	12 23 31.7	14.167
20	21 8 42.99	2.3635	21 47 18.3	9.357	20	22 57 36.66	2.1824	12 9 19.5	14.239
21	21 11 4.68	2.3595	21 37 52.9	9.488	21	22 59 47.52	2.1796	11 55 3.0	14.309
22	21 13 26.13	2.3556	21 28 19.7	9.617	22	23 1 58.21	2.1767	11 40 42.4	14.377
23	21 15 47.35	2.3517	S. 21° 18' 38.8"	9.745	23	23 4 8.73	2.1739	S. 11° 26' 17.7"	14.445
SUNDAY 6.					TUESDAY 8.				
0	21 18 8.33	2.3477	S. 21° 8' 50.3"	9.879	0	23 6 19.08	2.1712	S. 11° 11' 49.0"	14.512
1	21 20 29.07	2.3436	20 58 54.2	9.998	1	23 8 29.27	2.1686	10 57 16.3	14.576
2	21 22 49.56	2.3395	20 48 50.6	10.123	2	23 10 39.31	2.1661	10 42 39.9	14.638
3	21 25 9.81	2.3354	20 38 39.5	10.247	3	23 12 49.20	2.1636	10 27 59.8	14.699
4	21 27 29.81	2.3313	20 28 21.0	10.369	4	23 14 58.94	2.1612	10 13 16.0	14.761
5	21 29 49.57	2.3272	20 17 55.2	10.490	5	23 17 8.54	2.1588	9 58 28.5	14.821
6	21 32 9.08	2.3232	20 7 22.2	10.610	6	23 19 17.99	2.1564	9 43 37.5	14.878
7	21 34 28.35	2.3191	19 56 42.0	10.729	7	23 21 27.31	2.1540	9 28 43.1	14.934
8	21 36 47.37	2.3149	19 45 54.7	10.847	8	23 23 36.50	2.1521	9 13 45.4	14.989
9	21 39 6.14	2.3108	19 35 0.4	10.963	9	23 25 45.56	2.1500	8 58 44.4	15.043
10	21 41 24.67	2.3067	19 23 59.2	11.078	10	23 27 54.50	2.1480	8 43 40.2	15.096
11	21 43 42.95	2.3027	19 12 51.0	11.193	11	23 30 3.32	2.1460	8 28 32.9	15.147
12	21 46 0.99	2.2986	19 1 36.0	11.306	12	23 32 12.02	2.1441	8 13 22.6	15.197
13	21 48 18.78	2.2945	18 50 14.3	11.417	13	23 34 20.61	2.1423	7 58 9.3	15.245
14	21 50 36.33	2.2905	18 38 45.9	11.527	14	23 36 29.10	2.1406	7 42 53.2	15.291
15	21 52 53.64	2.2864	18 27 11.0	11.636	15	23 38 37.49	2.1390	7 27 34.4	15.336
16	21 55 10.70	2.2823	18 15 29.6	11.744	16	23 40 45.78	2.1374	7 12 12.9	15.381
17	21 57 27.52	2.2783	18 3 41.7	11.853	17	23 42 53.98	2.1358	6 56 48.7	15.424
18	21 59 44.10	2.2743	17 51 47.4	11.957	18	23 45 2.08	2.1344	6 41 22.0	15.465
19	22 2 0.44	2.2703	17 39 46.9	12.060	19	23 47 10.10	2.1331	6 25 52.9	15.505
20	22 4 16.54	2.2664	17 27 40.2	12.163	20	23 49 18.05	2.1318	6 10 21.4	15.544
21	22 6 32.41	2.2625	17 15 27.3	12.265	21	23 51 25.92	2.1306	5 54 47.6	15.582
22	22 8 48.04	2.2586	17 3 8.4	12.364	22	23 53 33.72	2.1295	5 39 11.6	15.618
23	22 11 3.44	2.2547	16 50 43.6	12.463	23	23 55 41.46	2.1285	5 23 33.5	15.652
24	22 13 18.60	2.2508	S. 16° 38' 12.8"	12.562	24	23 57 49.14	2.1275	S. 5° 7' 53.4"	15.685

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 9.					FRIDAY 11.				
0	^h 23 ^m 57 ^s 49.14	2.1275	S. 5° 7' 53.4"	15.685	0	^h 1 40 ^m 22.34	2.1766	N. 7° 35' 53.8"	15.571
1	23 59 56.76	2.1266	4 52 11.3	15.717	1	1 42 33.02	2.1795	7 51 26.9	15.532
2	0 2 4.33	2.1257	4 36 27.4	15.747	2	1 44 43.88	2.1826	8 6 57.6	15.490
3	0 4 11.85	2.1250	4 20 41.7	15.776	3	1 46 54.93	2.1857	8 22 25.7	15.447
4	0 6 19.33	2.1244	4 4 54.3	15.803	4	1 49 6.16	2.1888	8 37 51.2	15.402
5	0 8 26.78	2.1239	3 49 5.3	15.829	5	1 51 17.58	2.1920	8 53 14.0	15.357
6	0 10 34.20	2.1234	3 33 14.8	15.854	6	1 53 29.20	2.1953	9 8 34.0	15.309
7	0 12 41.59	2.1230	3 17 22.8	15.877	7	1 55 41.02	2.1986	9 23 51.1	15.260
8	0 14 48.96	2.1227	3 1 29.5	15.898	8	1 57 53.04	2.2020	9 39 5.2	15.209
9	0 16 56.31	2.1224	2 45 35.0	15.918	9	2 0 5.26	2.2055	9 54 16.2	15.157
10	0 19 3.65	2.1222	2 29 39.3	15.938	10	2 2 17.70	2.2091	10 9 24.0	15.103
11	0 21 10.98	2.1222	2 13 42.4	15.957	11	2 4 30.35	2.2127	10 24 28.5	15.047
12	0 23 18.31	2.1222	1 57 44.5	15.973	12	2 6 43.22	2.2163	10 39 29.6	14.989
13	0 25 25.65	2.1223	1 41 45.7	15.987	13	2 8 56.31	2.2201	10 54 27.2	14.931
14	0 27 32.99	2.1224	1 25 46.1	16.000	14	2 11 9.63	2.2239	11 9 21.3	14.870
15	0 29 40.34	2.1227	1 9 45.7	16.012	15	2 13 23.18	2.2278	11 24 11.6	14.807
16	0 31 47.71	2.1231	0 53 44.6	16.023	16	2 15 36.96	2.2317	11 38 58.1	14.743
17	0 33 55.11	2.1235	0 37 42.9	16.032	17	2 17 50.98	2.2356	11 53 40.8	14.678
18	0 36 2.53	2.1240	0 21 40.8	16.039	18	2 20 5.23	2.2395	12 8 19.5	14.611
19	0 38 9.99	2.1246	S. 0 5 38.3	16.045	19	2 22 19.72	2.2436	12 22 54.1	14.542
20	0 40 17.49	2.1252	N. 0 10 24.6	16.051	20	2 24 34.46	2.2478	12 37 24.5	14.472
21	0 42 25.02	2.1259	0 26 27.8	16.054	21	2 26 49.46	2.2521	12 51 50.7	14.400
22	0 44 32.60	2.1268	0 42 31.1	16.055	22	2 29 4.71	2.2562	13 6 12.5	14.326
23	0 46 40.24	2.1277	N. 0 58 34.4	16.055	23	2 31 20.21	2.2604	N. 13 20 29.8	14.250
THURSDAY 10.					SATURDAY 12.				
0	0 48 47.93	2.1287	N. 1 14 37.7	16.053	0	2 33 35.96	2.2647	N. 13 34 42.5	14.172
1	0 50 55.68	2.1296	1 30 40.8	16.051	1	2 35 51.97	2.2691	13 48 50.5	14.094
2	0 53 3.50	2.1310	1 46 43.8	16.047	2	2 38 8.25	2.2735	14 2 53.8	14.014
3	0 55 11.40	2.1322	2 2 46.5	16.043	3	2 40 24.79	2.2779	14 16 52.2	13.932
4	0 57 19.37	2.1336	2 18 48.8	16.034	4	2 42 41.60	2.2823	14 30 45.6	13.848
5	0 59 27.43	2.1350	2 34 50.6	16.026	5	2 44 58.67	2.2867	14 44 33.9	13.763
6	1 1 35.57	2.1364	2 50 51.9	16.016	6	2 47 16.01	2.2913	14 58 17.1	13.676
7	1 3 43.80	2.1380	3 6 52.5	16.004	7	2 49 33.63	2.2959	15 11 55.0	13.587
8	1 5 52.13	2.1396	3 22 52.4	15.991	8	2 51 51.52	2.3005	15 25 27.5	13.496
9	1 8 0.56	2.1413	3 38 51.4	15.976	9	2 54 9.69	2.3052	15 38 54.5	13.404
10	1 10 9.09	2.1432	3 54 49.5	15.960	10	2 56 28.14	2.3098	15 52 16.0	13.311
11	1 12 17.74	2.1451	4 10 46.6	15.942	11	2 58 46.87	2.3144	16 5 31.8	13.215
12	1 14 26.50	2.1470	4 26 42.5	15.922	12	3 1 5.87	2.3191	16 18 41.8	13.118
13	1 16 35.38	2.1491	4 42 37.2	15.902	13	3 3 25.16	2.3238	16 31 46.0	13.020
14	1 18 44.39	2.1512	4 58 30.7	15.880	14	3 5 44.73	2.3286	16 44 44.2	12.919
15	1 20 53.53	2.1534	5 14 22.8	15.856	15	3 8 4.59	2.3333	16 57 36.3	12.817
16	1 23 2.80	2.1557	5 30 13.4	15.830	16	3 10 24.73	2.3381	17 10 22.3	12.714
17	1 25 12.21	2.1580	5 46 2.4	15.803	17	3 12 45.16	2.3429	17 23 2.0	12.609
18	1 27 21.76	2.1604	6 1 49.8	15.775	18	3 15 5.88	2.3477	17 35 35.4	12.502
19	1 29 31.46	2.1629	6 17 35.4	15.745	19	3 17 26.88	2.3524	17 48 2.3	12.394
20	1 31 41.31	2.1655	6 33 19.2	15.713	20	3 19 48.17	2.3572	18 0 22.7	12.285
21	1 33 51.32	2.1682	6 49 1.0	15.680	21	3 22 9.75	2.3621	18 12 36.5	12.173
22	1 36 1.49	2.1709	7 4 40.8	15.645	22	3 24 31.62	2.3668	18 24 43.5	12.060
23	1 38 11.83	2.1737	7 20 18.4	15.608	23	3 26 53.77	2.3716	18 36 43.7	11.945
24	1 40 22.34	2.1766	N. 7 35 53.8	15.571	24	3 29 16.21	2.3764	N. 18 48 36.9	11.828

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 13.					TUESDAY 15.				
0	h m s	"	N. 18° 48' 36.9	"	0	h m s	"	N. 25° 36' 29.0	"
1	3 29 16.21	2.3764	19 0 23.1	11.898	1	5 28 4.24	2.5449	25 41 8.1	4.737
2	3 31 38.94	2.3812	19 12 2.2	11.711	2	5 30 36.97	2.5461	25 45 37.1	4.567
3	3 34 1.95	2.3859	19 23 34.2	11.592	3	5 33 9.77	2.5471	25 49 55.9	4.398
4	3 36 25.25	2.3907	19 34 58.8	11.472	4	5 35 42.62	2.5479	25 54 4.5	4.228
5	3 38 48.83	2.3954	19 46 16.0	11.349	5	5 38 15.52	2.5487	26 1 50.8	4.057
6	3 41 12.69	2.4001	19 57 25.8	11.225	6	5 40 48.47	2.5494	26 5 28.5	3.886
7	3 43 36.84	2.4048	20 8 28.0	11.100	7	5 43 21.45	2.5499	26 12 13.1	3.714
8	3 46 1.27	2.4095	20 19 22.5	10.973	8	5 45 54.46	2.5509	26 15 19.9	3.543
9	3 48 25.98	2.4141	20 30 9.3	10.844	9	5 48 27.48	2.5504	26 18 16.4	3.372
10	3 50 50.96	2.4187	20 40 48.3	10.715	10	5 51 0.51	2.5505	26 21 2.6	3.200
11	3 53 16.22	2.4232	21 1 42.4	10.584	11	5 53 33.54	2.5504	26 23 38.5	3.028
12	3 55 41.75	2.4277	21 11 57.3	10.451	12	5 56 6.56	2.5502	26 26 4.0	2.856
13	3 58 7.55	2.4322	21 22 4.1	10.316	13	5 58 39.57	2.5499	26 28 19.2	2.684
14	4 0 33.62	2.4367	21 32 2.7	10.181	14	6 1 12.55	2.5494	26 30 24.1	2.512
15	4 2 59.96	2.4412	21 41 52.9	10.045	15	6 3 45.50	2.5487	26 32 18.7	2.339
16	4 5 26.56	2.4455	22 10 32.9	9.907	16	6 6 18.40	2.5479	26 35 37.0	2.167
17	4 7 53.42	2.4498	22 19 49.0	9.767	17	6 8 51.25	2.5470	26 37 0.8	1.996
18	4 10 20.54	2.4541	22 28 56.4	9.627	18	6 11 24.04	2.5460	26 38 14.3	1.824
19	4 12 47.92	2.4584	22 37 55.0	9.485	19	6 13 56.77	2.5446	26 39 17.6	1.653
20	4 15 15.55	2.4625	22 46 44.8	9.341	20	6 16 29.42	2.5434	26 40 10.7	1.482
21	4 17 43.42	2.4666		9.196	21	6 19 1.98	2.5419		1.311
22	4 20 11.54	2.4707		9.050	22	6 21 34.45	2.5403		1.140
23	4 22 39.90	2.4746		8.903	23	6 24 6.82	2.5386		0.970
24	4 25 8.49	2.4784		8.756	24	6 26 39.08	2.5366		0.799
MONDAY 14.					WEDNESDAY 16.				
0	4 27 37.30	2.4821	N. 22° 55' 25.7	8.607	0	6 29 11.21	2.5344	N. 26° 40' 53.5	0.629
1	4 30 6.34	2.4859	23 3 57.6	8.456	1	6 31 43.21	2.5322	26 41 26.2	0.460
2	4 32 35.61	2.4897	23 12 20.4	8.303	2	6 34 15.08	2.5300	26 41 48.7	0.291
3	4 35 5.10	2.4933	23 20 34.0	8.150	3	6 36 46.82	2.5276	26 42 1.1	+ 0.123
4	4 37 34.80	2.4967	23 28 38.4	7.997	4	6 39 18.40	2.5249	26 42 3.4	- 0.045
5	4 40 4.71	2.5001	23 36 33.6	7.842	5	6 41 49.81	2.5221	26 41 55.7	0.213
6	4 42 34.81	2.5034	23 44 19.4	7.685	6	6 44 21.05	2.5192	26 41 37.9	0.380
7	4 45 5.11	2.5066	23 51 55.8	7.528	7	6 46 52.12	2.5163	26 41 10.1	0.546
8	4 47 35.60	2.5097	23 59 22.8	7.371	8	6 49 23.00	2.5131	26 40 32.4	0.711
9	4 50 6.28	2.5128	24 6 40.3	7.212	9	6 51 53.69	2.5099	26 39 44.8	0.876
10	4 52 37.14	2.5157	24 13 48.2	7.052	10	6 54 24.19	2.5065	26 38 47.3	1.040
11	4 55 8.17	2.5185	24 20 46.5	6.892	11	6 56 54.47	2.5029	26 37 40.0	1.204
12	4 57 39.36	2.5212	24 27 35.2	6.731	12	6 59 24.53	2.4992	26 36 22.8	1.367
13	5 0 10.71	2.5238	24 34 14.2	6.568	13	7 1 54.57	2.4955	26 34 55.9	1.529
14	5 2 42.22	2.5264	24 40 43.4	6.404	14	7 4 23.99	2.4917	26 33 19.3	1.690
15	5 5 13.88	2.5288	24 47 2.7	6.240	15	7 6 53.37	2.4876	26 31 33.1	1.851
16	5 7 45.68	2.5311	24 53 12.2	6.076	16	7 9 22.50	2.4834	26 29 37.2	2.011
17	5 10 17.61	2.5332	24 59 11.8	5.911	17	7 11 51.38	2.4792	26 27 31.8	2.169
18	5 12 49.67	2.5353	25 5 1.5	5.745	18	7 14 20.00	2.4748	26 25 16.9	2.327
19	5 15 21.85	2.5372	25 10 41.2	5.578	19	7 16 48.35	2.4703	26 22 52.6	2.484
20	5 17 54.14	2.5390	25 16 10.9	5.411	20	7 19 16.44	2.4658	26 20 18.8	2.641
21	5 20 26.53	2.5406	25 21 30.6	5.244	21	7 21 44.25	2.4612	26 17 35.7	2.795
22	5 22 59.01	2.5421	25 26 40.2	5.076	22	7 24 11.78	2.4563	26 14 43.4	2.949
23	5 25 31.58	2.5436	25 31 39.7	4.907	23	7 26 39.01	2.4513	26 11 41.9	3.102
24	5 28 4.24	2.5449	N. 25° 36' 29.0	4.737	24	7 29 5.94	2.4463	N. 26° 8' 31.2	3.254

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 17.					SATURDAY 19.				
0	^h 7 ^m 29 ^s 5.94	2.4463	N. 26° 8' 31.2"	3.254	0	^h 9 ^m 19 ^s 32.80	2.1439	N. 20° 59' 52.9"	9.114
1	7 31 32.57	2.4413	26 5 11.4	3.405	1	9 21 41.19	2.1365	20 50 43.3	9.205
2	7 33 58.90	2.4361	26 1 42.6	3.554	2	9 23 49.18	2.1298	20 41 28.3	9.294
3	7 36 24.91	2.4308	25 58 4.9	3.703	3	9 25 56.77	2.1232	20 32 8.0	9.389
4	7 38 50.60	2.4255	25 54 18.3	3.851	4	9 28 3.97	2.1167	20 22 42.4	9.489
5	7 41 15.97	2.4202	25 50 22.8	3.998	5	9 30 10.78	2.1103	20 13 11.7	9.554
6	7 43 41.02	2.4147	25 46 18.5	4.144	6	9 32 17.21	2.1039	20 3 35.9	9.638
7	7 46 5.73	2.4090	25 42 5.5	4.287	7	9 34 23.25	2.0974	19 53 55.1	9.722
8	7 48 30.10	2.4032	25 37 44.0	4.430	8	9 36 28.90	2.0909	19 44 9.3	9.804
9	7 50 54.12	2.3975	25 33 13.9	4.572	9	9 38 34.16	2.0845	19 34 18.6	9.885
10	7 53 17.80	2.3917	25 28 35.3	4.713	10	9 40 39.04	2.0782	19 24 23.1	9.964
11	7 55 41.12	2.3858	25 23 48.3	4.853	11	9 42 43.55	2.0720	19 14 22.9	10.042
12	7 58 4.09	2.3798	25 18 52.9	4.992	12	9 44 47.68	2.0657	19 4 18.1	10.119
13	8 0 26.70	2.3738	25 13 49.3	5.129	13	9 46 51.43	2.0594	18 54 8.7	10.195
14	8 2 48.94	2.3677	25 8 37.5	5.265	14	9 48 54.81	2.0533	18 43 54.7	10.270
15	8 5 10.82	2.3616	25 3 17.5	5.400	15	9 50 57.83	2.0472	18 33 36.3	10.343
16	8 7 32.33	2.3554	24 57 49.5	5.533	16	9 53 0.48	2.0412	18 23 13.5	10.418
17	8 9 53.46	2.3491	24 52 13.6	5.665	17	9 55 2.77	2.0352	18 12 46.4	10.487
18	8 12 14.22	2.3428	24 46 29.7	5.797	18	9 57 4.70	2.0292	18 2 15.1	10.557
19	8 14 34.60	2.3364	24 40 38.0	5.926	19	9 59 6.27	2.0232	17 51 39.6	10.626
20	8 16 54.59	2.3300	24 34 38.6	6.053	20	10 1 7.49	2.0173	17 41 0.0	10.694
21	8 19 14.20	2.3237	24 28 31.6	6.180	21	10 3 8.35	2.0114	17 30 16.3	10.762
22	8 21 33.43	2.3172	24 22 17.0	6.307	22	10 5 8.86	2.0057	17 19 28.6	10.828
23	8 23 52.26	2.3108	N. 24 15 54.8	6.432	23	10 7 9.03	2.0000	N. 17 8 37.0	10.892
FRIDAY 18.					SUNDAY 20.				
0	8 26 10.70	2.3041	N. 24 9 25.2	6.554	0	10 9 8.86	1.9943	N. 16 57 41.6	10.955
1	8 28 28.75	2.2975	24 2 48.3	6.676	1	10 11 8.35	1.9887	16 46 42.4	11.017
2	8 30 46.40	2.2908	23 56 4.1	6.797	2	10 13 7.51	1.9831	16 35 39.5	11.079
3	8 33 3.65	2.2842	23 49 12.7	6.916	3	10 15 6.33	1.9776	16 24 32.9	11.140
4	8 35 20.50	2.2775	23 42 14.2	7.033	4	10 17 4.82	1.9722	16 13 22.7	11.199
5	8 37 36.95	2.2709	23 35 8.7	7.150	5	10 19 2.99	1.9668	16 2 9.0	11.257
6	8 39 53.01	2.2642	23 27 56.2	7.265	6	10 21 0.84	1.9615	15 50 51.8	11.315
7	8 42 8.66	2.2575	23 20 36.9	7.378	7	10 22 58.37	1.9562	15 39 31.2	11.371
8	8 44 23.91	2.2507	23 13 10.8	7.491	8	10 24 55.59	1.9510	15 28 7.3	11.426
9	8 46 38.75	2.2440	23 5 37.9	7.603	9	10 26 52.49	1.9458	15 16 40.1	11.481
10	8 48 53.19	2.2372	22 57 58.4	7.713	10	10 28 49.09	1.9407	15 5 9.6	11.535
11	8 51 7.22	2.2304	22 50 12.3	7.822	11	10 30 45.38	1.9357	14 53 35.9	11.587
12	8 53 20.84	2.2237	22 42 19.8	7.928	12	10 32 41.37	1.9308	14 41 59.1	11.638
13	8 55 34.06	2.2169	22 34 20.9	8.034	13	10 34 37.07	1.9259	14 30 19.3	11.688
14	8 57 46.87	2.2102	22 26 15.7	8.139	14	10 36 32.48	1.9210	14 18 36.5	11.738
15	8 59 59.28	2.2034	22 18 4.2	8.242	15	10 38 27.59	1.9162	14 6 50.7	11.787
16	9 2 11.28	2.1967	22 9 46.6	8.344	16	10 40 22.42	1.9116	13 55 2.0	11.835
17	9 4 22.88	2.1900	22 1 22.9	8.446	17	10 42 16.98	1.9070	13 43 10.5	11.881
18	9 6 34.08	2.1832	21 52 53.1	8.546	18	10 44 11.26	1.9024	13 31 16.3	11.927
19	9 8 44.87	2.1765	21 44 17.4	8.643	19	10 46 5.26	1.8978	13 19 19.3	11.972
20	9 10 55.26	2.1698	21 35 35.9	8.740	20	10 47 59.00	1.8935	13 7 19.6	12.017
21	9 13 5.25	2.1631	21 26 48.6	8.836	21	10 49 52.48	1.8892	12 55 17.3	12.060
22	9 15 14.83	2.1564	21 17 55.6	8.930	22	10 51 45.70	1.8849	12 43 12.4	12.102
23	9 17 24.01	2.1498	21 8 57.0	9.022	23	10 53 38.66	1.8806	12 31 5.0	12.143
24	9 19 32.80	2.1432	N. 20 59 52.9	9.114	24	10 55 31.37	1.8764	N. 12 18 55.2	12.183

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 21.					WEDNESDAY 23.				
0	10 55 31.37	1.8764	N. 12° 18' 55.2"	12.183	0	12 22 10.49	1.7695	N. 2° 1' 50.2"	13.260
1	10 57 23.83	1.8793	12 6 43.0	12.223	1	12 23 56.22	1.7690	1 48 34.4	13.266
2	10 59 16.05	1.8863	11 54 28.4	12.263	2	12 25 41.93	1.7616	1 35 18.3	13.271
3	11 1 8.03	1.8643	11 42 11.4	12.309	3	12 27 27.61	1.7619	1 22 1.9	13.276
4	11 2 59.77	1.8604	11 29 52.2	12.339	4	12 29 13.27	1.7608	1 8 45.2	13.280
5	11 4 51.28	1.8567	11 17 30.8	12.375	5	12 30 58.91	1.7605	0 55 28.3	13.284
6	11 6 42.57	1.8530	11 5 7.2	12.411	6	12 32 44.53	1.7604	0 42 11.1	13.287
7	11 8 33.64	1.8493	10 52 41.5	12.446	7	12 34 30.15	1.7603	0 28 53.8	13.289
8	11 10 24.49	1.8457	10 40 13.7	12.479	8	12 36 15.77	1.7602	0 15 36.4	13.291
9	11 12 15.12	1.8421	10 27 44.0	12.512	9	12 38 1.38	1.7603	N. 0 2 18.9	13.292
10	11 14 5.54	1.8387	10 15 12.3	12.545	10	12 39 47.00	1.7604	S. 0 10 58.7	13.293
11	11 15 55.76	1.8354	10 2 38.6	12.577	11	12 41 32.63	1.7607	0 24 16.3	13.292
12	11 17 45.79	1.8322	9 50 3.0	12.608	12	12 43 18.28	1.7610	0 37 33.8	13.292
13	11 19 35.62	1.8289	9 37 25.6	12.638	13	12 45 3.95	1.7613	0 50 51.3	13.291
14	11 21 25.26	1.8257	9 24 46.4	12.667	14	12 46 49.64	1.7617	1 4 8.7	13.289
15	11 23 14.70	1.8225	9 12 5.5	12.696	15	12 48 35.36	1.7622	1 17 26.0	13.287
16	11 25 3.96	1.8196	8 59 22.9	12.724	16	12 50 21.11	1.7628	1 30 43.1	13.283
17	11 26 53.05	1.8167	8 46 38.6	12.752	17	12 52 6.90	1.7635	1 44 0.0	13.279
18	11 28 41.96	1.8138	8 33 52.6	12.779	18	12 53 52.73	1.7642	1 57 16.6	13.274
19	11 30 30.70	1.8110	8 21 5.1	12.804	19	12 55 38.60	1.7650	2 10 32.9	13.269
20	11 32 19.28	1.8082	8 8 16.1	12.829	20	12 57 24.53	1.7659	2 23 48.9	13.264
21	11 34 7.69	1.8056	7 55 25.6	12.853	21	12 59 10.51	1.7668	2 37 4.6	13.258
22	11 35 55.95	1.8031	7 42 33.7	12.877	22	13 0 56.55	1.7679	2 50 19.9	13.251
23	11 37 44.06	1.8006	N. 7 29 40.4	12.900	23	13 2 42.66	1.7690	S. 3 3 34.7	13.244
TUESDAY 22.					THURSDAY 24.				
0	11 39 32.02	1.7992	N. 7 16 45.7	12.922	0	13 4 28.83	1.7701	S. 3 16 49.1	13.236
1	11 41 19.84	1.7958	7 3 49.7	12.944	1	13 6 15.07	1.7713	3 30 3.0	13.227
2	11 43 7.52	1.7935	6 50 52.4	12.965	2	13 8 1.39	1.7727	3 43 16.3	13.217
3	11 44 55.06	1.7913	6 37 53.9	12.985	3	13 9 47.80	1.7742	3 56 29.0	13.207
4	11 46 42.47	1.7892	6 24 54.2	13.004	4	13 11 34.29	1.7757	4 9 41.1	13.196
5	11 48 29.76	1.7873	6 11 53.4	13.023	5	13 13 20.88	1.7772	4 22 52.5	13.184
6	11 50 16.93	1.7852	5 58 51.4	13.042	6	13 15 7.56	1.7788	4 36 3.2	13.172
7	11 52 3.99	1.7833	5 45 48.3	13.059	7	13 16 54.34	1.7806	4 49 13.2	13.160
8	11 53 50.93	1.7814	5 32 44.3	13.075	8	13 18 41.23	1.7824	5 2 22.4	13.147
9	11 55 37.76	1.7797	5 19 39.3	13.092	9	13 20 28.22	1.7842	5 15 30.8	13.133
10	11 57 24.49	1.7781	5 6 33.3	13.108	10	13 22 15.33	1.7861	5 28 38.3	13.118
11	11 59 11.13	1.7765	4 53 26.4	13.123	11	13 24 2.56	1.7881	5 41 44.9	13.102
12	12 0 57.67	1.7749	4 40 18.5	13.138	12	13 25 49.90	1.7901	5 54 50.5	13.085
13	12 2 44.12	1.7735	4 27 9.8	13.151	13	13 27 37.37	1.7923	6 7 55.1	13.068
14	12 4 30.49	1.7721	4 14 0.4	13.164	14	13 29 24.98	1.7946	6 20 58.7	13.051
15	12 6 16.78	1.7708	4 0 50.2	13.176	15	13 31 12.72	1.7968	6 34 1.3	13.034
16	12 8 2.99	1.7696	3 47 39.3	13.188	16	13 33 0.60	1.7992	6 47 2.8	13.015
17	12 9 49.13	1.7684	3 34 27.7	13.199	17	13 34 48.63	1.8017	7 0 3.1	12.994
18	12 11 35.20	1.7673	3 21 15.4	13.210	18	13 36 36.80	1.8042	7 13 2.1	12.973
19	12 13 21.21	1.7663	3 8 2.5	13.219	19	13 38 25.13	1.8068	7 25 59.9	12.953
20	12 15 7.16	1.7654	2 54 49.1	13.228	20	13 40 13.62	1.8094	7 38 56.4	12.933
21	12 16 53.06	1.7646	2 41 35.1	13.237	21	13 42 2.26	1.8121	7 51 51.7	12.910
22	12 18 38.91	1.7638	2 28 20.6	13.246	22	13 43 51.07	1.8149	8 4 45.6	12.886
23	12 20 24.72	1.7631	2 15 5.6	13.253	23	13 45 40.05	1.8178	8 17 38.0	12.862
24	12 22 10.49	1.7625	N. 2 1 50.2	13.260	24	13 47 29.21	1.8208	S. 8 30 29.0	12.837

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 25.					SUNDAY 27.				
0	h m s	s	S. ° ' "	"	0	h m s	s	S. ° ' "	"
1	13 47 20.21	1.8908	8 30 20.0	12.837	1	15 19 35.99	2.0415	18 2 4.3	10.615
2	13 49 18.55	1.8938	8 43 18.5	12.812	2	15 21 38.66	2.0475	18 12 39.1	10.544
3	13 51 8.07	1.8969	8 56 6.4	12.785	3	15 23 41.69	2.0536	18 23 9.6	10.472
4	13 52 57.78	1.8301	9 8 52.7	12.758	4	15 25 45.09	2.0597	18 33 35.7	10.398
5	13 54 47.68	1.8333	9 21 37.4	12.730	5	15 27 48.85	2.0658	18 43 57.3	10.322
6	13 56 37.78	1.8366	9 34 20.3	12.701	6	15 29 52.98	2.0719	18 54 14.3	10.245
7	13 58 28.08	1.8400	9 47 1.5	12.672	7	15 31 57.48	2.0782	19 4 26.7	10.168
8	14 0 18.58	1.8435	9 59 41.0	12.642	8	15 34 2.36	2.0844	19 14 34.5	10.090
9	14 2 9.30	1.8471	10 12 18.6	12.611	9	15 36 7.61	2.0907	19 24 37.5	10.010
10	14 4 0.23	1.8507	10 24 54.3	12.579	10	15 38 13.24	2.0970	19 34 35.7	9.929
11	14 5 51.38	1.8543	10 37 28.1	12.547	11	15 40 19.25	2.1033	19 44 29.0	9.847
12	14 7 42.75	1.8580	10 49 59.9	12.513	12	15 42 25.64	2.1097	19 54 17.4	9.764
13	14 9 34.34	1.8618	11 2 29.6	12.478	13	15 44 32.41	2.1161	20 4 0.7	9.679
14	14 11 26.17	1.8657	11 14 57.2	12.443	14	15 46 39.57	2.1226	20 13 38.9	9.593
15	14 13 18.23	1.8697	11 27 22.8	12.408	15	15 48 47.12	2.1290	20 23 11.9	9.507
16	14 15 10.53	1.8737	11 39 46.2	12.371	16	15 50 55.05	2.1354	20 32 39.7	9.418
17	14 17 3.08	1.8778	11 52 7.3	12.333	17	15 53 3.37	2.1419	20 42 2.1	9.328
18	14 18 55.87	1.8819	12 4 26.1	12.294	18	15 55 12.08	2.1485	20 51 19.1	9.237
19	14 20 48.91	1.8862	12 16 42.6	12.255	19	15 57 21.19	2.1551	21 0 30.5	9.144
20	14 22 42.21	1.8905	12 28 56.7	12.214	20	15 59 30.69	2.1616	21 9 36.4	9.051
21	14 24 35.77	1.8948	12 41 8.3	12.173	21	16 1 40.58	2.1682	21 18 36.7	8.957
22	14 26 29.59	1.8992	12 53 17.5	12.131	22	16 3 50.87	2.1747	21 27 31.2	8.860
23	14 28 23.67	1.9037	13 5 24.1	12.087	23	16 6 1.55	2.1813	21 36 19.9	8.762
24	14 30 18.03	1.9083	S. 13 17 28.0	12.043	24	16 8 12.63	2.1879	S. 21 45 2.7	8.664
SATURDAY 26.					MONDAY 28.				
0	h m s	s	S. ° ' "	"	0	h m s	s	S. ° ' "	"
1	14 32 12.67	1.9130	S. 13 29 29.3	11.999	1	16 10 24.10	2.1945	S. 21 53 39.6	8.564
2	14 34 7.59	1.9177	13 41 27.9	11.953	2	16 12 35.97	2.2011	22 2 10.4	8.462
3	14 36 2.79	1.9224	13 53 23.7	11.906	3	16 14 48.24	2.2077	22 10 35.1	8.360
4	14 37 58.27	1.9271	14 5 16.6	11.858	4	16 17 0.90	2.2143	22 18 53.6	8.256
5	14 39 54.04	1.9320	14 17 6.6	11.809	5	16 19 13.96	2.2209	22 27 5.8	8.151
6	14 41 50.11	1.9370	14 28 53.7	11.760	6	16 21 27.41	2.2275	22 35 11.7	8.044
7	14 43 46.48	1.9420	14 40 37.8	11.709	7	16 23 41.26	2.2341	22 43 11.1	7.936
8	14 45 43.15	1.9471	14 52 18.8	11.657	8	16 25 55.51	2.2407	22 51 4.0	7.827
9	14 47 40.13	1.9522	15 3 56.7	11.604	9	16 28 10.15	2.2472	22 58 50.3	7.716
10	14 49 37.41	1.9573	15 15 31.3	11.550	10	16 30 25.18	2.2538	23 6 29.9	7.604
11	14 51 35.00	1.9625	15 27 2.7	11.496	11	16 32 40.61	2.2604	23 14 2.8	7.492
12	14 53 32.91	1.9678	15 38 30.8	11.440	12	16 34 56.43	2.2669	23 21 28.9	7.377
13	14 55 31.14	1.9732	15 49 55.5	11.383	13	16 37 12.64	2.2734	23 28 48.0	7.260
14	14 57 29.69	1.9786	16 1 16.7	11.325	14	16 39 29.24	2.2799	23 36 0.1	7.143
15	14 59 28.57	1.9841	16 12 34.5	11.267	15	16 41 46.23	2.2863	23 43 5.2	7.025
16	15 1 27.78	1.9896	16 23 48.7	11.206	16	16 44 3.60	2.2927	23 50 3.1	6.905
17	15 3 27.32	1.9953	16 34 59.2	11.144	17	16 46 21.35	2.2991	23 56 53.8	6.784
18	15 5 27.20	2.0008	16 46 6.0	11.082	18	16 48 39.49	2.3055	24 3 37.2	6.662
19	15 7 27.41	2.0064	16 57 9.0	11.018	19	16 50 58.01	2.3118	24 10 13.2	6.538
20	15 9 27.97	2.0121	17 8 8.2	10.954	20	16 53 16.90	2.3180	24 16 41.7	6.413
21	15 11 28.87	2.0179	17 19 3.5	10.888	21	16 55 36.17	2.3243	24 23 2.7	6.287
22	15 13 30.12	2.0238	17 29 54.8	10.822	22	16 57 55.82	2.3306	24 29 16.1	6.159
23	15 15 31.72	2.0297	17 40 42.1	10.754	23	17 0 15.84	2.3367	24 35 21.8	6.031
24	15 17 33.68	2.0356	17 51 25.3	10.685	24	17 2 36.22	2.3427	24 41 19.8	5.901
	15 19 35.99	2.0415	S. 18 2 4.3	10.615		17 4 56.97	2.3488	S. 24 47 9.9	5.769

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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TUESDAY 29.

	^h	^m	^s	^s	[°]	[']	["]	["]
0	17	4	56.97	2.3488	S. 24	47	9.9	5.769
1	17	7	18.08	2.3548	24	52	52.1	5.637
2	17	9	39.55	2.3607	24	58	26.3	5.503
3	17	12	1.37	2.3666	25	3	52.4	5.368
4	17	14	23.54	2.3724	25	9	10.4	5.233
5	17	16	46.05	2.3781	25	14	20.2	5.094
6	17	19	8.91	2.3838	25	19	21.7	4.956
7	17	21	32.11	2.3894	25	24	14.9	4.816
8	17	23	55.64	2.3948	25	28	59.6	4.674
9	17	26	19.49	2.4002	25	33	35.8	4.532
10	17	28	43.67	2.4056	25	38	3.5	4.390
11	17	31	8.17	2.4110	25	42	22.6	4.245
12	17	33	32.99	2.4162	25	46	32.9	4.099
13	17	35	58.12	2.4213	25	50	34.5	3.953
14	17	38	23.55	2.4263	25	54	27.3	3.807
15	17	40	49.27	2.4312	25	58	11.3	3.658
16	17	43	15.29	2.4361	26	1	46.3	3.508
17	17	45	41.60	2.4408	26	5	12.2	3.357
18	17	48	8.19	2.4454	26	8	29.1	3.206
19	17	50	35.05	2.4499	26	11	36.9	3.053
20	17	53	2.18	2.4544	26	14	35.5	2.899
21	17	55	29.58	2.4587	26	17	24.8	2.744
22	17	57	57.23	2.4629	26	20	4.8	2.589
23	18	0	25.13	2.4671	S. 26	22	35.5	2.434

WEDNESDAY 30.

0	18	2	53.28	2.4711	S. 26	24	56.9	2.277
1	18	5	21.66	2.4749	26	27	8.8	2.119
2	18	7	50.27	2.4787	26	29	11.2	1.960
3	18	10	19.10	2.4823	26	31	4.0	1.800
4	18	12	48.15	2.4858	26	32	47.2	1.640
5	18	15	17.40	2.4892	26	34	20.8	1.480
6	18	17	46.85	2.4925	26	35	44.8	1.318
7	18	20	16.50	2.4957	26	36	59.0	1.156
8	18	22	46.33	2.4987	26	38	3.5	0.993
9	18	25	16.34	2.5016	26	38	58.2	0.830
10	18	27	46.52	2.5043	26	39	43.1	0.666
11	18	30	16.86	2.5069	26	40	18.1	0.501
12	18	32	47.35	2.5094	26	40	43.2	0.336
13	18	35	17.99	2.5118	26	40	58.4	0.170
14	18	37	48.77	2.5141	26	41	3.6	-0.004
15	18	40	19.68	2.5162	26	40	58.9	+0.162
16	18	42	50.71	2.5181	26	40	44.2	0.329
17	18	45	21.85	2.5199	26	40	19.4	0.497
18	18	47	53.10	2.5217	26	39	44.5	0.665
19	18	50	24.45	2.5232	26	38	59.6	0.833
20	18	52	55.89	2.5246	26	38	4.6	1.001
21	18	55	27.40	2.5258	26	36	59.5	1.169
22	18	57	58.98	2.5269	26	35	44.3	1.338
23	19	0	30.63	2.5280	26	34	19.0	1.507
24	19	3	2.34	2.5288	S. 26	32	43.5	1.676

THURSDAY 31.

	^h	^m	^s	^s	[°]	[']	["]	["]
0	19	3	2.34	2.5288	S. 26	32	43.5	1.676
1	19	5	34.09	2.5295	26	30	57.9	1.845
2	19	8	5.88	2.5301	26	29	2.1	2.014
3	19	10	37.70	2.5305	26	26	56.2	2.183
4	19	13	9.54	2.5308	26	24	40.1	2.352
5	19	15	41.40	2.5310	26	22	13.9	2.521
6	19	18	13.26	2.5309	26	19	37.6	2.690
7	19	20	45.11	2.5308	26	16	51.1	2.859
8	19	23	16.96	2.5306	26	13	54.5	3.027
9	19	25	48.79	2.5302	26	10	47.8	3.196
10	19	28	20.59	2.5297	26	7	31.0	3.365
11	19	30	52.36	2.5291	26	4	4.0	3.534
12	19	33	24.08	2.5282	26	0	26.9	3.702
13	19	35	55.75	2.5273	25	56	39.8	3.869
14	19	38	27.36	2.5262	25	52	42.6	4.036
15	19	40	58.90	2.5251	25	48	35.4	4.203
16	19	43	30.37	2.5238	25	44	18.2	4.370
17	19	46	1.75	2.5223	25	39	51.0	4.536
18	19	48	33.04	2.5206	25	35	13.9	4.701
19	19	51	4.23	2.5189	25	30	26.9	4.867
20	19	53	35.31	2.5172	25	25	29.9	5.032
21	19	56	6.29	2.5153	25	20	23.0	5.196
22	19	58	37.15	2.5132	25	15	6.3	5.359
23	20	1	7.88	2.5110	S. 25	9	39.9	5.522

FRIDAY, JANUARY 1, 1892.

0	20	3	38.47	2.5087	S. 25	4	3.7	5.684
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PHASES OF THE MOON.

	d	h	m
☾ First Quarter	Dec. 8	5	13.2
○ Full Moon	15	0	52.6
☾ Last Quarter	22	17	38.6
● New Moon	30	15	19.8

	d	h
☾ Perigee	Dec. 11	6.1
☾ Apogee	23	6.0

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
2	Sun	W.	12 7 25	3044	13 36 43	3030	15 6 18	3018	16 36 8	3006
	Fomalhaut	E.	70 52 40	2866	69 19 37	2861	67 46 28	2856	66 13 13	2852
	α Pegasi	E.	90 46 19	3071	89 17 34	3061	87 48 37	3053	86 19 30	3046
3	Sun	W.	24 8 44	2955	25 39 53	2945	27 11 15	2936	28 42 48	2927
	Fomalhaut	E.	58 26 1	2844	56 52 30	2845	55 19 0	2847	53 45 33	2850
	α Pegasi	E.	78 51 56	3019	77 22 7	3017	75 52 15	3014	74 22 20	3014
4	Sun	W.	36 23 25	2883	37 56 5	2875	39 28 56	2867	41 1 57	2859
	Fomalhaut	E.	45 59 55	2889	44 27 22	2903	42 55 7	2920	41 23 13	2939
	α Pegasi	E.	66 52 49	3023	65 23 5	3028	63 53 27	3035	62 23 58	3044
5	Sun	W.	48 49 40	2819	50 23 43	2811	51 57 56	2805	53 32 18	2797
	α Pegasi	E.	54 59 56	3115	53 32 5	3137	52 4 40	3161	50 37 44	3189
	α Arietis	E.	95 8 43	2572	93 29 10	2565	91 49 27	2558	90 9 34	2551
6	Sun	W.	61 26 34	2760	63 1 54	2753	64 37 23	2747	66 13 1	2740
	α Arietis	E.	81 47 53	2530	80 7 7	2515	78 26 14	2509	76 45 13	2504
	Aldebaran	E.	112 6 19	2459	110 24 8	2452	108 41 47	2444	106 59 15	2438
7	Sun	W.	74 13 29	2705	75 50 2	2698	77 26 44	2692	79 3 34	2686
	α Aquilæ	W.	44 24 42	4517	45 28 19	4383	46 33 56	4260	47 41 26	4150
	α Arietis	E.	68 18 29	2482	66 36 51	2479	64 55 8	2476	63 13 21	2474
	Aldebaran	E.	98 24 11	2404	96 40 42	2398	94 57 4	2391	93 13 17	2385
8	Sun	W.	87 9 55	2654	88 47 37	2648	90 25 27	2642	92 3 25	2636
	α Aquilæ	W.	53 42 57	3722	54 59 21	3656	56 16 55	3596	57 35 34	3541
	α Arietis	E.	54 43 47	2468	53 1 49	2470	51 19 53	2472	49 38 0	2474
	Aldebaran	E.	84 32 10	2356	82 47 32	2350	81 2 45	2345	79 17 51	2339
9	Sun	W.	100 15 12	2608	101 53 56	2603	103 32 47	2598	105 11 45	2593
	α Aquilæ	W.	64 22 35	3324	65 46 19	3289	67 10 43	3259	68 35 43	3231
	Fomalhaut	W.	29 31 8	3044	31 0 26	2965	32 31 22	2897	34 3 45	2837
	JUPITER	W.	17 27 47	2417	19 10 58	2397	20 54 37	2380	22 38 40	2366
	α Arietis	E.	41 10 6	2509	39 29 5	2521	37 48 21	2537	36 7 59	2556
	Aldebaran	E.	70 31 32	2316	68 45 56	2312	67 0 14	2309	65 14 27	2304
	Pollux	E.	114 35 25	2286	112 49 8	2283	111 2 43	2278	109 16 11	2274
10	Sun	W.	113 28 8	2572	115 7 42	2569	116 47 20	2565	118 27 3	2562
	α Aquilæ	W.	75 48 14	3121	77 15 58	3105	78 44 1	3091	80 12 21	3079
	Fomalhaut	W.	42 2 6	2833	43 40 16	2806	45 19 3	2881	46 58 24	2859
	JUPITER	W.	31 23 6	2320	33 8 37	2313	34 54 17	2307	36 40 6	2302
	Aldebaran	E.	56 24 18	2291	54 38 6	2289	52 51 51	2288	51 5 34	2288
	Pollux	E.	100 21 55	2253	98 34 46	2249	96 47 32	2246	95 0 13	2243
11	Sun	W.	126 46 34	2551	128 26 36	2550	130 6 40	2550	131 46 44	2549
	α Aquilæ	W.	87 37 4	3043	89 6 23	3042	90 35 44	3041	92 5 6	3043
	Fomalhaut	W.	55 21 51	2478	57 3 35	2467	58 45 35	2457	60 27 49	2448
	JUPITER	W.	45 30 52	2283	47 17 16	2281	49 3 43	2279	50 50 13	2278
	α Pegasi	W.	40 3 34	3308	41 27 36	3231	42 53 8	3164	44 20 0	3105
	Aldebaran	E.	42 14 16	2294	40 28 8	2298	38 42 6	2309	36 56 10	2309
	Pollux	E.	86 2 37	2232	84 14 57	2231	82 27 15	2230	80 39 32	2229

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
2	SUN	W.	18 6 13	2996	19 36 31	2985	21 7 3	2975	22 37 47	2965
	Fomalhaut	E.	64 39 53	2949	63 6 29	2947	61 33 2	2945	59 59 32	2944
	α Pegasi	E.	84 50 14	3039	83 20 50	3033	81 51 18	3028	80 21 40	3023
3	SUN	W.	30 14 33	2918	31 46 29	2909	33 18 37	2900	34 50 56	2892
	Fomalhaut	E.	52 12 10	2855	50 38 53	2860	49 5 43	2868	47 32 43	2877
	α Pegasi	E.	72 52 24	3014	71 22 28	3014	69 52 32	3016	68 22 39	3018
4	SUN	W.	42 35 9	2851	44 8 31	2842	45 42 4	2835	47 15 47	2827
	Fomalhaut	E.	39 51 44	2963	38 20 45	2990	36 50 20	3024	35 20 37	3063
	α Pegasi	E.	60 54 40	3055	59 25 35	3066	57 56 44	3080	56 28 10	3096
5	SUN	W.	55 6 50	2789	56 41 32	2782	58 16 23	2775	59 51 24	2768
	α Pegasi	E.	49 11 22	3221	47 45 38	3258	46 20 37	3299	44 56 24	3345
	α Arietis	E.	88 29 32	2544	86 49 20	2538	85 9 0	2532	83 28 31	2525
6	SUN	W.	67 48 48	2733	69 24 44	2725	71 0 50	2719	72 37 5	2712
	α Arietis	E.	75 4 5	2499	73 22 50	2494	71 41 29	2490	70 0 2	2486
	Aldebaran	E.	105 16 34	2431	103 33 43	2424	101 50 42	2417	100 7 31	2410
7	SUN	W.	80 40 33	2679	82 17 41	2673	83 54 57	2666	85 32 22	2660
	α Aquilæ	W.	48 50 40	4047	50 1 33	3955	51 13 57	3870	52 27 47	3792
	α Arietis	E.	61 31 31	2479	59 49 38	2470	58 7 42	2469	56 25 45	2468
	Aldebaran	E.	91 29 21	2379	89 45 16	2373	88 1 2	2367	86 16 40	2362
8	SUN	W.	93 41 31	2630	95 19 45	2625	96 58 6	2619	98 36 35	2613
	α Aquilæ	W.	58 55 13	3490	60 15 48	3443	61 37 16	3400	62 59 33	3360
	α Arietis	E.	47 56 10	2478	46 14 26	2483	44 32 49	2490	42 51 22	2498
	Aldebaran	E.	77 32 49	2335	75 47 40	2330	74 2 24	2325	72 17 1	2321
9	SUN	W.	106 50 49	2588	108 30 0	2584	110 9 17	2580	111 48 40	2576
	α Aquilæ	W.	70 1 16	3904	71 27 20	3180	72 53 53	3158	74 20 52	3139
	Fomalhaut	W.	35 37 25	2785	37 12 12	2740	38 47 59	2700	40 24 39	2665
	JUPITER	W.	24 23 3	2355	26 7 43	2344	27 52 38	2335	29 37 46	2327
	α Arietis	E.	34 28 3	2579	32 48 39	2606	31 9 52	2640	29 31 51	2679
	Aldebaran	E.	63 28 34	2301	61 42 36	2298	59 56 34	2296	58 10 28	2293
	Pollux	E.	107 29 33	2269	105 42 48	2264	103 55 56	2260	102 8 58	2257
10	SUN	W.	120 6 50	2559	121 46 41	2556	123 26 36	2554	125 6 34	2553
	α Aquilæ	W.	81 40 56	3069	83 9 44	3060	84 38 43	3053	86 7 50	3047
	Fomalhaut	W.	48 38 16	2539	50 18 35	2521	51 59 19	2505	53 40 25	2491
	JUPITER	W.	38 26 3	2297	40 12 7	2293	41 58 17	2289	43 44 32	2286
	Aldebaran	E.	49 19 17	2288	47 33 0	2288	45 46 43	2289	44 0 28	2291
	Pollux	E.	93 12 49	2240	91 25 21	2238	89 37 50	2235	87 50 15	2233
11	SUN	W.	133 26 49	2549	135 6 54	2550	136 46 58	2551	138 27 1	2552
	α Aquilæ	W.	93 34 26	3045	95 3 43	3050	96 32 54	3056	98 1 58	3064
	Fomalhaut	W.	62 10 15	2441	63 52 52	2431	65 35 38	2429	67 18 32	2424
	JUPITER	W.	52 36 45	2277	54 23 18	2277	56 9 52	2276	57 56 27	2277
	α Pegasi	W.	45 48 3	3052	47 17 11	3005	48 47 17	2964	50 18 15	2927
	Aldebaran	E.	35 10 23	2315	33 24 46	2325	31 39 23	2336	29 54 16	2350
	Pollux	E.	78 51 47	2229	77 4 2	2229	75 16 17	2229	73 28 33	2230

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
12	α Aquilæ W.	99° 30' 52"	3074	100° 59' 33"	3086	102° 28' 0"	3100	103° 56' 10"	3115
	Fomalhaut W.	69 1 33	2490	70 44 39	2418	72 27 48	2416	74 11 0	2415
	JUPITER W.	59 43 1	2277	61 29 34	2278	63 16 6	2280	65 2 35	2283
	α Pegasi W.	51 50 0	2894	53 22 26	2865	54 55 30	2839	56 29 7	2817
	Pollux E.	71 40 50	2231	69 53 9	2233	68 5 30	2235	66 17 54	2237
	Regulus E.	107 58 28	2244	106 11 6	2245	104 23 45	2247	102 36 27	2248
13	Fomalhaut W.	82 46 57	2422	84 30 0	2426	86 12 57	2431	87 55 48	2436
	JUPITER W.	73 54 0	2299	75 40 1	2304	77 25 55	2309	79 11 41	2315
	α Pegasi W.	64 23 23	2741	65 59 8	2733	67 35 4	2736	69 11 9	2721
	α Arietis W.	20 59 23	2026	22 29 3	2024	24 0 52	2042	25 34 25	2776
	Pollux E.	57 21 2	2256	55 33 57	2261	53 47 0	2266	52 0 11	2272
	Regulus E.	93 40 53	2266	91 54 3	2270	90 7 20	2275	88 20 44	2281
14	Fomalhaut W.	96 27 50	2474	98 9 40	2483	99 51 17	2494	101 32 39	2505
	JUPITER W.	87 58 14	2350	89 43 0	2358	91 27 35	2367	93 11 57	2376
	α Pegasi W.	77 12 40	2716	78 48 58	2719	80 25 12	2724	82 1 20	2730
	α Arietis W.	33 38 54	2599	35 17 50	2583	36 57 8	2570	38 36 44	2561
	Pollux E.	43 8 29	2309	41 22 43	2317	39 37 9	2327	37 51 49	2337
	Regulus E.	79 30 6	2316	77 44 30	2325	75 59 7	2334	74 13 57	2343
15	JUPITER W.	101 50 15	2422	103 33 9	2441	105 15 46	2453	106 58 6	2465
	α Pegasi W.	89 59 40	2773	91 34 43	2785	93 9 30	2798	94 44 0	2812
	α Arietis W.	46 56 55	2547	48 37 3	2550	50 17 7	2553	51 57 6	2558
	Pollux E.	29 8 58	2394	27 25 14	2408	25 41 50	2422	23 58 46	2437
	Regulus E.	65 31 40	2396	63 48 0	2408	62 4 36	2420	60 21 30	2433
	Spica E.	119 34 32	2398	117 50 55	2410	116 7 34	2420	114 24 28	2432
16	JUPITER W.	115 25 17	2531	117 5 47	2545	118 45 57	2560	120 25 47	2574
	α Pegasi W.	102 31 35	2896	104 3 59	2916	105 35 57	2937	107 7 29	2959
	α Arietis W.	60 14 55	2596	61 53 55	2606	63 32 42	2617	65 11 14	2627
	Aldebaran W.	29 34 29	2590	31 13 38	2593	32 52 42	2599	34 31 39	2604
	Regulus E.	51 50 39	2502	50 9 28	2516	48 28 37	2531	46 48 7	2547
	Spica E.	105 53 12	2494	104 11 50	2507	102 30 47	2521	100 50 3	2535
17	α Arietis W.	73 20 2	2689	74 56 57	2702	76 33 34	2715	78 9 54	2729
	Aldebaran W.	42 43 49	2651	44 21 35	2662	45 59 6	2674	47 36 21	2687
	Regulus E.	38 31 11	2630	36 52 57	2649	35 15 8	2667	33 37 44	2686
	Spica E.	92 31 13	2606	90 52 26	2621	89 14 0	2636	87 35 54	2651
18	α Arietis W.	86 6 53	2801	87 41 20	2815	89 15 29	2829	90 49 19	2845
	Aldebaran W.	55 38 23	2750	57 13 56	2764	58 49 11	2777	60 24 9	2791
	Spica E.	79 30 26	2726	77 54 21	2741	76 18 35	2756	74 43 9	2771
19	α Arietis W.	98 33 43	2917	100 5 40	2931	101 37 19	2946	103 8 40	2960
	Aldebaran W.	68 14 36	2857	69 47 50	2869	71 20 48	2882	72 53 30	2895
	Pollux W.	23 59 20	2845	25 32 50	2856	27 6 5	2868	28 39 5	2879
	Spica E.	66 50 48	2843	65 17 16	2857	63 44 2	2871	62 11 6	2884
	Sun E.	131 20 34	3199	129 54 24	3214	128 28 31	3227	127 2 54	3241
20	Aldebaran W.	80 33 3	2954	82 4 13	2965	83 35 10	2976	85 5 53	2985
	Pollux W.	36 20 30	2935	37 52 5	2946	39 23 26	2955	40 54 35	2965

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
12	α Aquilæ	W.	105° 24' 1"	3133	106° 51' 30"	3151	108° 18' 34"	3177	109° 45' 11"	3203
	Fomalhaut	W.	75 54 13	3415	77 37 26	3415	79 20 39	3417	81 3 50	3419
	JUPITER	W.	66 49 0	2985	68 35 22	2987	70 21 40	2991	72 7 53	2995
	α Pegasi	W.	58 3 13	2797	59 37 45	2780	61 12 39	2765	62 47 53	2753
	Pollux	E.	64 30 22	2940	62 42 54	2943	60 55 31	2947	59 8 13	2951
	Regulus	E.	100 49 11	2951	99 1 59	2954	97 14 52	2958	95 27 50	2961
13	Fomalhaut	W.	89 38 32	2442	91 21 7	2449	93 3 32	2456	94 45 47	2465
	JUPITER	W.	80 57 19	2391	82 42 48	2398	84 28 7	2395	86 13 16	2349
	α Pegasi	W.	70 47 21	2717	72 23 38	2715	73 59 58	2714	75 36 19	2714
	α Arietis	W.	27 9 24	2794	28 45 32	2681	30 22 37	2648	32 0 27	2671
	Pollux	E.	50 13 30	2979	48 26 59	2985	46 40 38	2993	44 54 28	2300
	Regulus	E.	86 34 17	2987	84 47 59	2994	83 1 51	2301	81 15 53	2309
14	Fomalhaut	W.	103 13 45	2517	104 54 34	2530	106 35 6	2543	108 15 19	2559
	JUPITER	W.	94 56 6	2386	96 40 1	2396	98 23 41	2407	100 7 6	2418
	α Pegasi	W.	83 37 20	2736	85 13 12	2744	86 48 53	2753	88 24 23	2763
	α Arietis	W.	40 16 33	2553	41 56 32	2549	43 36 37	2546	45 16 46	2546
	Pollux	E.	36 6 44	2347	34 21 53	2358	32 37 18	2369	30 52 59	2389
	Regulus	E.	72 29 0	2353	70 44 18	2363	68 59 50	2373	67 15 37	2384
15	JUPITER	W.	108 40 9	2477	110 21 54	2491	112 3 20	2504	113 44 28	2517
	α Pegasi	W.	96 18 12	2627	97 52 5	2643	99 25 37	2660	100 58 47	2677
	α Arietis	W.	53 36 59	2564	55 16 43	2571	56 56 18	2579	58 35 42	2587
	Pollux	E.	22 16 4	2453	20 33 45	2470	18 51 50	2489	17 10 21	2510
	Regulus	E.	58 38 42	2446	56 56 13	2459	55 14 2	2475	53 32 11	2487
	Spica	E.	112 41 39	2443	110 59 6	2455	109 16 50	2468	107 34 52	2481
16	JUPITER	W.	122 5 17	2589	123 44 27	2604	125 23 16	2620	127 1 44	2636
	α Pegasi	W.	108 38 33	2682	110 9 8	2605	111 39 14	2631	113 8 48	2657
	α Arietis	W.	66 49 32	2639	68 27 34	2651	70 5 20	2663	71 42 49	2675
	Aldebaran	W.	36 10 28	2612	37 49 7	2621	39 27 34	2630	41 5 48	2640
	Regulus	E.	45 7 59	2563	43 28 13	2579	41 48 49	2596	40 9 48	2613
	Spica	E.	99 9 38	2548	97 29 32	2563	95 49 46	2577	94 10 19	2592
17	α Arietis	W.	79 45 55	2743	81 21 38	2757	82 57 2	2772	84 32 7	2786
	Aldebaran	W.	49 13 19	2689	50 50 0	2711	52 26 25	2724	54 2 33	2738
	Regulus	E.	32 0 45	2706	30 24 13	2726	28 48 8	2748	27 12 32	2770
	Spica	E.	85 58 8	2666	84 20 42	2681	82 43 37	2695	81 6 51	2711
18	α Arietis	W.	92 22 49	2859	93 56 0	2873	95 28 53	2888	97 1 27	2902
	Aldebaran	W.	61 58 49	2804	63 33 12	2818	65 7 17	2831	66 41 5	2844
	Spica	E.	73 8 3	2785	71 33 16	2800	69 58 48	2815	68 24 39	2828
19	α Arietis	W.	104 39 43	2974	105 10 28	2988	107 40 56	3002	109 11 6	3016
	Aldebaran	W.	74 25 55	2907	75 58 5	2920	77 29 59	2931	79 1 38	2942
	Pollux	W.	30 11 51	2891	31 44 22	2901	33 16 39	2912	34 48 42	2924
	Spica	E.	60 38 27	2898	59 6 6	2911	57 34 1	2924	56 2 12	2937
	SUN	E.	125 37 33	2955	124 12 29	2968	122 47 40	2982	121 23 7	2995
20	Aldebaran	W.	86 36 24	2996	88 6 42	3005	89 36 48	3014	91 6 43	3024
	Pollux	W.	42 25 31	2975	43 56 15	2984	45 26 48	2993	46 57 9	3001

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
20	Spica E.	54° 30' 40"	2949	52° 59' 23"	2963	51° 28' 22"	2973	49° 57' 35"	2985
	MARS E.	69 30 18	3154	68 3 14	3167	66 36 25	3178	65 9 49	3189
	SUN E.	119 58 50	3307	118 34 47	3319	117 10 58	3331	115 47 22	3343
21	Aldebaran W.	92 36 26	3039	94 5 50	3040	95 35 22	3048	97 4 35	3056
	Pollux W.	48 27 20	3009	49 57 21	3018	51 27 12	3025	52 56 54	3032
	Spica E.	42 27 15	3039	40 57 51	3050	39 28 40	3060	37 59 41	3070
	MARS E.	57 59 58	3238	56 34 34	3246	55 9 19	3254	53 44 14	3261
	SUN E.	108 52 31	3393	107 30 7	3401	106 7 52	3409	104 45 46	3418
22	Aldebaran W.	104 28 37	3086	105 57 4	3090	107 25 26	3095	108 53 42	3098
	Pollux W.	60 23 27	3059	61 52 27	3064	63 21 21	3067	64 50 11	3070
	Regulus W.	24 25 7	3138	25 52 31	3134	27 19 59	3131	28 47 31	3128
	Spica E.	30 37 48	3119	29 10 2	3129	27 42 28	3141	26 15 8	3153
	MARS E.	46 40 47	3291	45 16 25	3296	43 52 9	3300	42 27 58	3304
	Antares E.	76 18 16	3063	74 49 21	3067	73 20 31	3071	71 51 46	3074
	SUN E.	97 57 21	3449	96 36 0	3454	95 14 44	3458	93 53 33	3462
23	Aldebaran W.	116 14 4	3111	117 42 0	3119	119 9 55	3113	120 37 49	3114
	Pollux W.	72 13 35	3078	73 42 11	3079	75 10 46	3078	76 39 22	3078
	Regulus W.	36 5 59	3116	37 33 49	3114	39 1 42	3111	40 29 38	3108
	MARS E.	35 27 49	3313	34 3 52	3313	32 39 56	3313	31 16 0	3312
	Antares E.	64 28 51	3084	63 0 22	3084	61 31 53	3085	60 3 25	3084
	SUN E.	87 8 26	3471	85 47 30	3472	84 26 35	3471	83 5 39	3471
24	Pollux W.	84 2 48	3066	85 31 39	3063	87 0 34	3058	88 29 35	3054
	Regulus W.	47 50 19	3089	49 18 42	3084	50 47 11	3079	52 15 46	3073
	Antares E.	52 40 43	3075	51 12 3	3072	49 43 19	3068	48 14 30	3065
	SUN E.	76 20 38	3460	74 59 29	3455	73 38 15	3452	72 16 57	3446
25	Pollux W.	95 56 14	3024	97 25 57	3017	98 55 49	3009	100 25 50	3001
	Regulus W.	59 40 33	3040	61 9 56	3032	62 39 29	3024	64 9 12	3016
	Antares E.	40 49 6	3039	39 19 42	3033	37 50 10	3026	36 20 30	3021
	SUN E.	65 28 53	3415	64 6 54	3408	62 44 46	3400	61 22 29	3392
26	Pollux W.	107 58 35	2956	109 29 43	2946	111 1 4	2935	112 32 38	2925
	Regulus W.	71 40 34	2968	73 11 27	2958	74 42 33	2947	76 13 52	2936
	Spica W.	18 0 41	3109	19 28 40	3078	20 57 16	3059	22 26 25	3036
	Antares E.	28 50 9	2986	27 19 39	2981	25 49 2	2974	24 18 17	2969
	SUN E.	54 28 31	3343	53 5 9	3333	51 41 36	3322	50 17 50	3312
27	Regulus W.	83 54 2	2978	85 26 49	2966	86 59 52	2953	88 33 11	2941
	Spica W.	29 59 20	2994	31 31 9	2907	33 3 19	2890	34 35 51	2874
	SUN E.	43 15 43	3253	41 50 36	3241	40 25 15	3228	38 59 39	3216
28	Regulus W.	96 23 53	2776	97 58 52	2763	99 34 8	2750	101 9 41	2737
	Spica W.	42 23 38	2795	43 58 12	2780	45 33 6	2766	47 8 19	2750
	SUN E.	31 48 2	3155	30 20 59	3144	28 53 43	3133	27 26 14	3123
29	Regulus W.	109 11 47	2672	110 49 4	2660	112 26 38	2647	114 4 29	2635
	Spica W.	55 9 16	2679	56 46 24	2665	58 23 51	2651	60 1 37	2638
	SUN E.	20 6 0	3086	18 37 33	3086	17 9 6	3088	15 40 42	3097

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
20	Spica E.	48° 27' 3"	2996	46° 56' 45"	3008	45° 26' 42"	3018	43° 56' 52"	3029
	Mars E.	63 43 27	3199	62 17 17	3209	60 51 19	3220	59 25 33	3229
	Sun E.	114 24 0	3353	113 0 50	3364	111 37 52	3374	110 15 6	3384
21	Aldebaran W.	98 33 39	3062	100 2 35	3069	101 31 23	3075	103 0 3	3080
	Pollux W.	54 26 27	3038	55 55 53	3044	57 25 11	3050	58 54 22	3055
	Spica E.	36 30 55	3080	35 2 21	3089	33 33 58	3099	32 5 47	3109
	Mars E.	52 19 17	3269	50 54 29	3275	49 29 48	3281	48 5 14	3287
	Sun E.	103 23 50	3425	102 2 2	3431	100 40 21	3438	99 18 48	3444
22	Aldebaran W.	110 21 54	3102	111 50 1	3105	113 18 5	3107	114 46 6	3110
	Pollux W.	66 18 57	3073	67 47 40	3075	69 16 20	3077	70 44 58	3078
	Regulus W.	30 15 7	3125	31 42 46	3123	33 10 28	3121	34 38 12	3119
	Spica E.	24 48 2	3166	23 21 12	3181	21 54 40	3198	20 28 28	3216
	Mars E.	41 3 51	3306	39 39 47	3309	38 15 46	3311	36 51 47	3312
	Antares E.	70 23 5	3078	68 54 28	3079	67 25 53	3082	65 57 21	3083
	Sun E.	92 32 26	3464	91 11 22	3467	89 50 21	3470	88 29 23	3471
23	Aldebaran W.	122 5 42	3114	123 33 35	3113	125 1 29	3112	126 29 24	3111
	Pollux W.	78 7 59	3077	79 36 37	3074	81 5 18	3073	82 34 1	3069
	Regulus W.	41 57 38	3105	43 25 41	3101	44 53 49	3098	46 22 1	3093
	Mars E.	29 52 2	3311	28 28 3	3308	27 4 1	3306	25 39 57	3304
	Antares E.	58 34 56	3083	57 6 26	3082	55 37 54	3080	54 9 20	3078
	Sun E.	81 44 43	3470	80 23 45	3469	79 2 46	3466	77 41 44	3463
24	Pollux W.	89 58 41	3048	91 27 54	3043	92 57 13	3037	94 26 40	3031
	Regulus W.	53 44 28	3068	55 13 17	3061	56 42 14	3055	58 11 19	3047
	Antares E.	46 45 37	3060	45 16 39	3055	43 47 34	3050	42 18 23	3045
	Sun E.	70 55 33	3441	69 34 3	3436	68 12 27	3430	66 50 44	3423
25	Pollux W.	101 56 1	2993	103 26 23	2985	104 56 55	2975	106 27 39	2965
	Regulus W.	65 39 5	3006	67 9 10	2997	68 39 26	2988	70 9 54	2978
	Antares E.	34 50 43	3014	33 20 47	3007	31 50 43	3000	30 20 30	2993
	Sun E.	60 0 3	3382	58 37 26	3373	57 14 39	3364	55 51 41	3353
26	Pollux W.	114 4 25	2914	115 36 26	2902	117 8 42	2891	118 41 12	2880
	Regulus W.	77 45 25	2925	79 17 12	2913	80 49 14	2902	82 21 30	2890
	Spica W.	23 56 6	3003	25 26 15	2981	26 56 52	2961	28 27 54	2942
	Antares E.	22 47 26	2965	21 16 29	2962	19 45 29	2961	18 14 27	2962
	Sun E.	48 53 52	3300	47 29 40	3288	46 5 15	3276	44 40 36	3265
27	Regulus W.	90 6 46	2898	91 40 38	2815	93 14 46	2802	94 49 11	2789
	Spica W.	36 8 43	2858	37 41 56	2842	39 15 30	2826	40 49 24	2811
	Sun E.	37 33 49	3204	36 7 44	3191	34 41 24	3179	33 14 50	3168
28	Regulus W.	102 45 32	2794	104 21 40	2711	105 58 5	2698	107 34 47	2685
	Spica W.	48 43 52	2736	50 19 44	2721	51 55 56	2707	53 32 27	2693
	Sun E.	25 58 32	3114	24 30 39	3105	23 2 35	3097	21 34 22	3090
29	Regulus W.	115 42 37	2623	117 21 1	2610	118 59 42	2599	120 38 39	2586
	Spica W.	61 39 41	2624	63 18 3	2611	64 56 43	2598	66 35 41	2585
	Sun E.	14 12 29	3114	12 44 37	3144	11 17 21	3193	9 51 3	3267

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1 20 7 17.87	+ 5.151	-20 39 7.7	+53.58	1 23.8	1	19 14 28.85	+ 8.040	-20 49 3.8	-13.19	22 28.3	
2 20 9 1.65	3.474	20 18 5.4	51.47	1 21.5	2	19 17 50.56	8.758	20 53 54.1	10.99	22 28.0	
3 20 10 3.54	+ 1.663	19 58 3.4	48.56	1 18.6	3	19 21 28.70	9.410	20 57 49.9	8.65	22 27.9	
4 20 10 20.56	- 0.964	19 39 20.7	44.86	1 14.9	4	19 25 21.78	10.003	21 0 48.2	6.19	22 28.1	
5 20 9 50.27	2.278	19 22 16.0	40.42	1 10.4	5	19 29 28.43	10.543	21 2 46.3	3.63	22 28.4	
6 20 8 31.21	- 4.319	-19 7 5.8	+35.33	1 5.2	6	19 33 47.43	+11.034	-21 3 41.7	- 0.97	22 29.0	
7 20 6 23.13	6.346	18 54 4.2	29.73	0 59.1	7	19 38 17.68	11.480	21 3 32.4	+ 1.77	22 29.7	
8 20 3 27.31	8.984	18 43 21.4	23.80	0 52.2	8	19 42 58.14	11.866	21 2 16.5	4.58	22 30.6	
9 19 59 46.88	10.051	18 35 2.7	17.75	0 44.6	9	19 47 47.90	12.256	20 59 52.3	7.45	22 31.6	
10 19 55 26.85	11.568	18 29 9.1	11.77	0 36.4	10	19 52 46.15	12.593	20 56 18.5	10.38	22 32.7	
11 19 50 34.17	-12.761	-18 25 36.7	+ 6.02	0 27.6	11	19 57 52.13	+12.901	-20 51 33.5	+13.37	22 34.0	
12 19 45 17.37	13.570	18 24 17.2	+ 0.69	0 18.4	12	20 3 5.17	13.182	20 45 36.5	16.39	22 35.4	
13 19 39 46.16	13.957	18 24 59.6	- 4.12	0 9.0	13	20 8 24.67	13.439	20 38 26.6	19.44	22 36.9	
14 19 34 10.83	13.915	18 27 30.5	8.35	23 50.2	14	20 13 50.07	13.674	20 30 2.7	22.54	22 38.4	
15 19 28 41.49	13.463	18 31 35.9	12.00	23 41.1	15	20 19 20.87	13.889	20 20 24.1	25.67	22 40.1	
16 19 23 27.51	-12.644	-18 37 2.0	-15.08	23 32.3	16	20 24 56.61	+14.066	-20 9 30.2	+26.81	22 41.8	
17 19 18 36.90	11.526	18 43 35.7	17.63	23 24.0	17	20 30 36.90	14.269	19 57 20.7	31.98	22 43.6	
18 19 14 16.06	10.177	18 51 4.6	19.71	23 16.4	18	20 36 21.40	14.437	19 43 54.9	35.18	22 45.5	
19 19 10 29.68	8.668	18 59 18.1	21.34	23 9.3	19	20 42 9.77	14.591	19 29 12.2	38.38	22 47.4	
20 19 7 20.76	7.066	19 8 5.7	22.56	23 2.8	20	20 48 1.71	14.734	19 13 12.6	41.59	22 49.4	
21 19 4 50.79	- 5.431	-19 17 18.0	-23.40	22 57.0	21	20 53 56.95	+14.867	-18 55 55.8	+44.81	22 51.4	
22 19 3 0.02	3.806	19 26 46.2	23.89	22 51.9	22	20 59 55.26	14.991	18 37 21.4	48.05	22 53.5	
23 19 1 47.76	2.926	19 36 21.9	24.04	22 47.4	23	21 5 56.44	15.106	18 17 29.3	51.39	22 55.6	
24 19 1 12.57	- 0.719	19 45 57.3	23.86	22 43.4	24	21 12 0.31	15.215	17 56 19.2	54.55	22 57.8	
25 19 1 12.57	+ 0.703	19 55 24.8	23.38	22 40.0	25	21 18 6.71	15.317	17 33 51.1	57.80	23 0.0	
26 19 1 45.58	+ 2.031	-20 4 37.3	-22.69	22 37.0	26	21 24 15.50	+15.415	-17 10 4.9	+61.05	23 2.2	
27 19 2 49.27	3.261	20 13 28.4	21.59	22 34.6	27	21 30 26.57	15.507	16 45 0.6	64.31	23 4.5	
28 19 4 21.33	4.395	20 21 51.8	20.32	22 32.6	28	21 36 39.81	15.596	16 18 38.2	67.56	23 6.8	
29 19 6 19.46	5.434	20 29 41.9	18.82	22 31.0	29	21 42 55.15	15.689	15 50 57.6	70.89	23 9.2	
30 19 8 41.45	6.384	20 36 53.6	17.12	22 29.8	30	21 49 12.52	15.765	15 21 59.0	74.07	23 11.6	
31 19 11 25.22	+ 7.250	-20 43 22.3	-15.24	22 28.9	31	21 55 31.87	+15.847	-14 51 42.4	+77.39	23 14.0	
32 19 14 28.85	+ 8.040	-20 49 3.8	-13.19	22 28.3	32	22 1 53.18	+15.928	-14 20 7.8	+80.56	23 16.4	

Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.
Semidiameter . .	36"	4.4	4.9	5.0	4.7	4.2	3.8	Semidiameter.	3.4	3.2	3.0	2.8	2.7
Hor. Parallax . .	10.0	11.6	13.0	13.2	12.3	11.1	10.0	Hor. Parallax	9.1	8.4	7.9	7.4	7.1

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"			h m	h m s	s	° ' "	
1	21 42 55.15	+15.682	-15 50 57.6	+70.82	23 9.2	1	1 15 3.15	+18.268	+8 2 21.5	+140.48	0 36.9
2	21 49 12.52	15.765	15 21 59.0	74.07	23 11.6	2	1 22 20.52	18.173	8 58 12.4	138.68	0 40.3
3	21 55 31.87	15.847	14 51 42.4	77.32	23 14.0	3	1 29 35.08	18.033	9 53 13.5	136.32	0 43.6
4	22 1 53.18	15.928	14 20 7.8	80.56	23 16.4	4	1 36 45.71	17.844	10 47 11.0	133.39	0 46.8
5	22 8 16.42	16.009	13 47 15.5	83.80	23 18.9	5	1 43 51.20	17.604	11 39 51.4	129.89	0 49.9
6	22 14 41.61	+16.090	-13 13 5.7	+87.02	23 21.4	6	1 50 50.28	+17.310	+12 31 1.5	+125.86	0 53.0
7	22 21 8.75	16.172	12 37 38.5	90.24	23 24.0	7	1 57 41.67	16.992	13 20 28.8	121.33	0 55.9
8	22 27 37.87	16.255	12 0 54.3	93.44	23 26.6	8	2 4 24.05	16.560	14 8 1.6	116.33	0 58.7
9	22 34 9.01	16.340	11 22 53.4	96.63	23 29.2	9	2 10 56.13	16.104	14 53 29.2	110.91	1 1.3
10	22 40 42.20	16.427	10 43 36.2	99.80	23 31.8	10	2 17 16.65	15.597	15 36 42.4	105.13	1 3.7
11	22 47 17.52	+16.515	-10 3 3.4	+102.94	23 34.5	11	2 23 24.39	+15.040	+16 17 33.2	+99.05	1 5.8
12	22 53 55.04	16.610	9 21 15.5	106.06	23 37.2	12	2 29 18.21	14.437	16 55 54.9	92.72	1 7.8
13	23 0 34.83	16.706	8 38 13.0	109.14	23 40.0	13	2 34 57.01	13.790	17 31 42.1	86.19	1 9.5
14	23 7 16.97	16.806	7 53 57.0	112.19	23 42.8	14	2 40 19.78	13.101	18 4 50.6	79.50	1 10.9
15	23 14 1.54	16.909	7 8 28.4	115.18	23 45.6	15	2 45 25.56	12.375	18 35 17.2	72.70	1 12.0
16	23 20 48.64	+17.016	-6 21 48.6	+118.12	23 48.5	16	2 50 13.50	+11.615	+19 2 59.8	+65.83	1 12.9
17	23 27 38.35	17.127	5 33 58.9	121.00	23 51.5	17	2 54 42.80	10.822	19 27 56.6	58.90	1 13.4
18	23 34 30.76	17.241	4 45 1.2	123.80	23 54.6	18	2 58 52.72	10.000	19 50 6.8	51.95	1 13.6
19	23 41 25.94	17.358	3 54 57.5	126.40	23 57.6	19	3 2 42.59	9.152	20 9 30.0	44.98	1 13.5
20	23 48 23.93	17.477	3 3 50.4	129.08		20	3 6 11.82	8.280	20 26 6.1	38.02	1 13.0
21	23 55 24.77	+17.595	-2 11 42.8	+131.53	0 0.6	21	3 9 19.89	+7.389	+20 39 55.0	+31.06	1 12.2
22	0 2 28.46	17.713	1 18 38.3	133.82	0 3.7	22	3 12 6.38	6.482	20 50 57.2	24.12	1 11.0
23	0 9 34.97	17.829	-0 24 41.0	135.92	0 6.8	23	3 14 30.92	5.592	20 59 13.2	17.21	1 9.5
24	0 16 44.21	17.940	+0 30 4.2	137.81	0 10.0	24	3 16 33.28	4.634	21 4 43.6	10.33	1 7.6
25	0 23 56.05	18.045	1 25 31.8	139.44	0 13.3	25	3 18 13.33	3.704	21 7 29.3	+3.49	1 5.3
26	0 31 10.28	+18.139	+2 21 35.2	+140.79	0 16.6	26	3 19 31.09	+2.777	+21 7 31.6	-3.28	1 2.6
27	0 38 26.63	18.220	3 18 7.0	141.80	0 20.0	27	3 20 26.71	1.861	21 4 52.3	9.98	0 59.6
28	0 45 44.71	18.283	4 14 58.7	142.44	0 23.3	28	3 21 0.55	0.992	20 59 33.5	16.57	0 56.2
29	0 53 4.04	18.324	5 12 0.9	142.66	0 26.7	29	3 21 13.12	+0.089	20 51 38.3	23.01	0 52.5
30	1 0 24.03	18.338	6 9 3.0	142.43	0 30.1	30	3 21 5.15	-0.748	20 41 10.6	29.26	0 48.4
31	1 7 44.01	+18.321	+7 5 54.0	+141.72	0 33.5	31	3 20 37.60	-1.540	+20 28 15.6	-35.27	0 44.0
32	1 15 3.15	+18.268	+8 2 21.5	+140.48	0 36.9	32	3 19 51.68	-2.278	+20 13 0.1	-40.97	0 39.3
Day of the Month.2d.7th.12th.17th.22d.27th.						Day of the Month.1st.6th.11th.16th.21st.26th.					
Semidiameter . . 2.62.52.52.52.52.5						Semidiameter . . 2.62.93.23.64.24.8					
Hor. Parallax . . 6.96.76.66.56.56.7						Hor. Parallax . . 7.07.68.49.611.012.6					

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The — sign indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	3 20 37.60	-1.540	+20 28 15.6	-35.97	0 44.0	1	3 4 26.01	+ 6.683	+13 25 46.6	+31.30	22 24.6			
2	3 19 51.68	2.378	20 13 0.1	40.97	0 39.3	2	3 7 13.77	7.395	13 39 9.8	35.59	22 23.7			
3	3 18 48.78	2.952	19 55 32.0	46.30	0 34.3	3	3 10 16.11	7.898	13 54 13.0	39.63	22 23.0			
4	3 17 30.57	3.553	19 36 1.1	51.18	0 29.1	4	3 13 32.84	8.494	14 10 50.1	43.41	22 22.6			
5	3 15 58.89	4.073	19 14 39.5	55.52	0 23.6	5	3 17 3.78	9.084	14 28 54.4	46.93	22 22.4			
6	3 14 15.78	-4.503	+18 51 40.7	-59.97	0 18.0	6	3 20 48.80	+ 9.668	+14 48 20.1	+50.18	22 22.4			
7	3 12 23.48	4.838	18 27 19.8	69.35	0 12.2	7	3 24 47.79	10.948	15 9 0.7	53.16	22 22.7			
8	3 10 24.31	5.075	18 1 54.0	64.67	0 6.3	8	3 29 0.67	10.885	15 30 49.6	55.87	22 23.2			
9	3 8 20.66	5.911	17 35 41.8	66.21	0 0.3	9	3 33 27.40	11.402	15 53 40.2	58.31	22 23.9			
10	3 6 14.95	5.946	17 9 2.6	66.99	23 48.3	10	3 38 7.96	11.979	16 17 26.1	60.47	22 24.8			
11	3 4 9.61	-5.182	+16 42 16.3	-66.79	23 42.3	11	3 43 2.39	+19.558	+16 42 0.3	+62.34	22 26.0			
12	3 2 6.95	5.093	16 15 43.3	65.83	23 36.4	12	3 48 10.74	13.139	17 7 15.9	63.92	22 27.4			
13	3 0 9.19	4.776	15 49 43.1	64.06	23 30.7	13	3 53 33.08	13.794	17 33 5.9	65.19	22 29.1			
14	2 58 18.34	4.447	15 24 34.4	61.53	23 25.0	14	3 59 9.52	14.314	17 59 22.6	66.15	22 31.0			
15	2 56 36.31	4.044	15 0 35.2	58.29	23 19.6	15	4 5 0.18	14.909	18 25 58.6	66.79	22 33.1			
16	2 55 4.75	-3.576	+14 38 1.4	-54.42	23 14.3	16	4 11 5.18	+15.509	+18 52 45.6	+67.07	22 35.5			
17	2 53 45.09	3.054	14 17 7.3	50.09	23 9.3	17	4 17 24.65	16.114	19 19 35.1	66.99	22 38.1			
18	2 52 38.55	2.485	13 58 4.9	45.13	23 4.5	18	4 23 58.69	16.794	19 46 18.3	66.54	22 40.9			
19	2 51 46.12	1.879	13 41 4.2	39.88	22 59.9	19	4 30 47.41	17.337	20 12 45.8	65.68	22 44.0			
20	2 51 8.60	1.344	13 26 13.2	34.35	22 55.6	20	4 37 50.85	17.950	20 38 47.7	64.40	22 47.4			
21	2 50 46.58	-0.588	+13 13 37.8	-28.61	22 51.6	21	4 45 9.00	+18.561	+21 4 13.5	+63.68	22 51.0			
22	2 50 40.49	+0.082	13 3 21.6	22.74	22 47.5	22	4 52 41.75	19.167	21 28 52.4	60.49	22 54.8			
23	2 50 50.60	0.761	12 55 26.9	16.82	22 44.3	23	5 0 28.95	19.764	21 52 32.9	57.81	22 58.9			
24	2 51 17.04	1.443	12 49 54.4	10.90	22 41.0	24	5 8 30.31	20.345	22 15 3.1	54.63	23 3.2			
25	2 51 59.85	2.124	12 46 43.2	- 5.05	22 38.1	25	5 16 45.35	20.904	22 36 11.2	50.95	23 7.8			
26	2 52 58.97	+2.801	+12 45 51.2	+ 0.69	22 35.4	26	5 25 13.49	+21.436	+22 55 44.8	+46.77	23 12.5			
27	2 54 14.25	3.471	12 47 15.4	6.29	22 32.9	27	5 33 53.98	21.939	23 13 31.9	43.08	23 17.4			
28	2 55 45.53	4.133	12 50 52.0	11.79	22 30.7	28	5 42 45.86	22.384	23 29 20.7	36.91	23 22.5			
29	2 57 32.58	4.786	12 56 36.6	16.95	22 28.8	29	5 51 47.98	22.784	23 43 0.0	31.30	23 27.8			
30	2 59 35.18	5.428	13 4 24.2	21.97	22 27.2	30	6 0 59.05	23.128	23 54 19.7	25.28	23 33.2			
31	3 1 53.07	+6.061	+13 14 9.4	+26.76	22 25.8	31	6 10 17.62	+23.408	+24 3 10.8	+18.92	23 38.7			
32	3 4 26.01	+6.683	+13 25 46.6	+31.30	22 24.6	32	6 19 42.09	+23.619	+24 9 25.7	+19.26	23 44.2			
Day of the Month.						Day of the Month.								
	1st.	6th.	11th.	16th.	21st.	26th.	31st.		5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .	5.4	5.8	6.0	5.9	5.6	5.1	4.6	Semidiameter . .	4.1	3.7	3.3	3.0	2.8	2.6
Hor. Parallax . .	14.2	15.5	16.0	15.7	14.7	13.4	12.1	Hor. Parallax . .	10.8	9.7	8.8	8.0	7.3	6.9

NOTE.—The sign + indicates north declinations: the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.	Noon.
h m s	s	° ' "	"	h m	h m s	s	° ' "	"	h m	h m s	s
1	6 10 17.62	+23.408	+24 3 10.8	+18.92	23 38.7	1	10 15 50.72	+13.805	+11 22 15.1	-99.15	1 36.7
2	6 19 42.09	23.619	24 9 25.7	12.38	23 44.2	2	10 21 17.76	13.449	10 42 35.8	99.10	1 38.2
3	6 29 10.78	23.750	24 12 58.4	+ 5.43	23 49.8	3	10 26 36.31	13.098	10 2 59.4	98.90	1 39.6
4	6 38 41.96	23.896	24 13 45.3	- 1.54	23 55.4	4	10 31 46.46	12.749	9 23 29.7	98.55	1 40.8
5	6 48 13.87	23.991	24 11 44.2	8.56		5	10 36 48.25	12.402	8 44 10.4	98.04	1 41.9
6	6 57 44.82	+23.746	+24 6 54.8	-15.54	0 1.0	6	10 41 41.73	+12.056	+ 8 5 5.1	-97.38	1 42.8
7	7 7 13.19	23.906	23 59 19.0	22.42	0 6.6	7	10 46 26.90	11.709	7 26 17.5	96.56	1 43.6
8	7 16 37.45	23.406	23 49 0.3	29.12	0 12.1	8	10 51 3.74	11.361	6 47 51.3	95.59	1 44.3
9	7 25 56.25	23.152	23 36 3.6	36.58	0 17.5	9	10 55 32.19	11.009	6 9 50.2	94.47	1 44.8
10	7 35 8.35	22.850	23 20 34.8	41.77	0 22.7	10	10 59 52.16	10.654	5 32 18.0	93.19	1 45.2
11	7 44 12.73	+22.509	+23 2 41.2	-47.64	0 27.9	11	11 4 3.53	+10.293	+ 4 55 18.4	-91.75	1 45.4
12	7 53 8.50	22.134	22 42 30.8	53.17	0 32.9	12	11 8 6.16	9.924	4 18 55.4	90.14	1 45.5
13	8 1 54.94	21.733	22 20 11.7	58.36	0 37.7	13	11 11 59.83	9.546	3 43 13.3	88.35	1 45.4
14	8 10 31.50	21.312	21 55 52.5	63.18	0 42.4	14	11 15 44.30	9.158	3 8 16.4	86.37	1 45.2
15	8 18 57.78	20.876	21 29 42.1	67.63	0 46.9	15	11 19 19.31	8.757	2 34 9.2	84.20	1 44.9
16	8 27 13.47	+20.430	+21 1 48.9	-71.73	0 51.2	16	11 22 44.51	+ 8.341	+ 2 0 56.6	-81.82	1 44.3
17	8 35 18.38	19.978	20 32 21.6	75.48	0 55.4	17	11 25 59.54	7.909	1 28 43.6	79.22	1 43.6
18	8 43 12.43	19.526	20 1 28.4	78.80	0 59.3	18	11 29 3.98	7.458	0 57 35.7	76.39	1 42.7
19	8 50 55.62	19.074	19 29 17.3	81.98	1 3.1	19	11 31 57.35	6.996	+ 0 27 38.8	73.31	1 41.7
20	8 58 27.98	18.694	18 55 55.8	84.76	1 6.7	20	11 34 39.14	6.491	- 0 1 0.9	69.95	1 40.4
21	9 5 49.61	+18.180	+18 21 31.2	-87.94	1 10.1	21	11 37 8.74	+ 5.971	- 0 28 16.7	-66.31	1 38.9
22	9 13 0.67	17.742	17 46 10.3	89.45	1 13.4	22	11 39 25.54	5.494	0 54 1.4	62.36	1 37.3
23	9 20 1.31	17.312	17 9 59.7	91.39	1 16.4	23	11 41 28.84	4.847	1 18 7.2	58.06	1 35.4
24	9 26 51.73	16.890	16 33 5.4	93.09	1 19.3	24	11 43 17.92	4.238	1 40 25.5	53.40	1 33.3
25	9 33 32.11	16.476	15 55 33.3	94.55	1 22.1	25	11 44 51.98	3.595	2 0 47.3	48.35	1 30.9
26	9 40 2.66	+16.071	+15 17 28.9	-95.79	1 24.6	26	11 46 10.19	+ 2.917	- 2 19 3.2	-42.89	1 28.2
27	9 46 23.60	15.675	14 38 57.3	96.82	1 27.0	27	11 47 11.72	2.204	2 35 2.7	36.99	1 25.3
28	9 52 35.13	15.287	14 0 3.4	97.64	1 29.3	28	11 47 55.70	1.455	2 48 35.0	30.62	1 22.1
29	9 58 37.44	14.907	13 20 51.0	98.28	1 31.4	29	11 48 21.28	+ 0.671	2 59 28.7	23.77	1 18.5
30	10 4 30.70	14.533	12 41 27.2	98.74	1 33.3	30	11 48 27.66	- 0.145	3 7 32.0	16.42	1 14.7
31	10 10 15.07	+14.166	+12 1 53.5	-99.03	1 35.1	31	11 48 14.07	- 0.990	- 3 12 32.8	- 8.57	1 10.5
32	10 15 50.72	+13.605	+11 22 15.1	-99.15	1 36.7	32	11 47 39.90	- 1.859	- 3 14 19.5	- 0.24	1 6.0

Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter . .	2.5	2.5	2.5	2.6	2.7	2.9	Semidiameter . .	3.1	3.3	3.5	3.8	4.2	4.5
Hor. Parallax . .	6.7	6.7	6.8	7.0	7.3	7.7	Hor. Parallax . .	8.1	8.7	9.3	10.1	11.0	12.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"			h m s	s	° ' "	"	
1	11 47 39.90	-1.859	-3 14 19.5	-0.24	1 6.0	1	11 27 41.99	+12.153	+ 5 10 30.1	-57.79	22 49.0
2	11 46 44.71	2.743	3 12 40.7	+ 8.55	1 1.1	2	11 32 42.36	12.860	4 45 42.4	66.05	22 50.3
3	11 45 28.25	3.829	3 7 26.1	17.74	0 55.9	3	11 37 58.44	13.464	4 17 46.4	73.49	22 51.8
4	11 43 50.62	4.505	2 58 27.0	27.23	0 50.4	4	11 43 27.85	13.972	3 47 1.5	80.12	22 53.5
5	11 41 52.25	5.353	2 45 37.7	36.91	0 44.5	5	11 49 8.40	14.393	3 13 47.1	85.95	22 55.4
6	11 39 34.05	-6.154	-2 28 55.1	+46.63	0 38.2	6	11 54 58.11	+14.737	+ 2 38 22.0	-91.02	22 57.4
7	11 36 57.45	6.883	2 8 21.0	56.17	0 31.7	7	12 0 55.23	15.012	2 1 3.9	95.38	22 59.6
8	11 34 4.46	7.515	1 44 2.2	65.31	0 24.9	8	12 6 58.21	15.227	1 22 9.4	99.06	23 1.8
9	11 30 57.71	8.025	1 16 11.5	73.78	0 17.9	9	12 13 5.71	15.391	0 41 54.2	102.12	23 4.0
10	11 27 40.42	8.388	0 45 8.6	81.98	0 10.7	10	12 19 16.62	15.512	+ 0 0 32.5	104.60	23 6.3
11	11 24 16.45	-8.578	-0 11 20.0	+87.53	0 3.4	11	12 25 30.00	+15.598	- 0 41 42.6	-106.58	23 8.6
12	11 20 50.17	8.578	+0 24 41.2	92.38	23 56.0	12	12 31 45.08	15.654	1 24 39.7	108.10	23 10.9
13	11 17 26.31	8.374	1 2 15.8	95.29	23 41.5	13	12 38 1.22	15.688	2 8 8.0	109.20	23 13.2
14	11 14 9.91	7.957	1 40 39.9	96.39	23 34.6	14	12 44 17.93	15.702	2 51 58.3	109.93	23 15.6
15	11 11 6.04	7.331	2 19 6.0	95.50	23 27.9	15	12 50 34.81	15.702	3 36 2.1	110.33	23 17.9
16	11 8 19.60	-6.506	+2 56 48.4	+92.62	23 21.5	16	12 56 51.57	+15.692	- 4 20 11.9	-110.44	23 20.2
17	11 5 55.19	5.499	3 32 57.6	87.83	23 15.6	17	13 3 7.98	15.675	5 4 21.1	110.99	23 22.6
18	11 3 56.89	4.334	4 6 50.3	81.27	23 10.2	18	13 9 23.92	15.652	5 48 24.1	109.92	23 24.9
19	11 2 28.18	3.039	4 37 46.2	73.15	23 5.3	19	13 15 39.28	15.627	6 32 15.5	109.34	23 27.2
20	11 1 31.78	1.647	5 5 10.9	63.72	23 1.0	20	13 21 54.02	15.601	7 15 50.8	108.58	23 29.5
21	11 1 9.63	-0.191	+5 28 36.1	+53.94	22 57.3	21	13 28 8.12	+15.575	- 7 59 6.0	-107.66	23 31.8
22	11 1 22.86	+1.296	5 47 40.0	41.98	22 54.2	22	13 34 21.63	15.551	8 41 57.4	106.60	23 34.1
23	11 2 11.84	2.783	6 2 7.0	30.91	22 51.6	23	13 40 34.57	15.526	9 24 21.7	105.41	23 36.3
24	11 3 36.22	4.242	6 11 48.1	18.19	22 49.6	24	13 46 47.01	15.509	10 6 16.2	104.11	23 38.6
25	11 5 35.04	5.649	6 16 39.8	+ 6.12	22 48.2	25	13 52 59.03	15.493	10 47 38.1	102.70	23 40.9
26	11 8 6.80	+6.984	+6 16 43.2	- 5.79	22 47.2	26	13 59 10.71	+15.481	-11 28 25.0	-101.90	23 43.1
27	11 11 9.55	8.230	6 12 4.7	17.36	22 46.8	27	14 5 22.15	15.474	12 8 34.8	99.61	23 45.3
28	11 14 41.01	9.375	6 2 53.9	28.45	22 46.8	28	14 11 33.48	15.471	12 48 5.5	97.94	23 47.6
29	11 18 38.67	10.412	5 49 23.9	38.95	22 47.2	29	14 17 44.78	15.472	13 26 55.2	96.19	23 49.9
30	11 22 59.68	11.338	5 31 50.1	48.75	22 47.9	30	14 23 56.15	15.478	14 5 2.3	94.38	23 52.1
31	11 27 41.99	+12.153	+5 10 30.1	-57.79	22 49.0	31	14 30 7.74	+15.488	-14 42 25.1	-92.51	23 54.4
32	11 32 42.36	+12.860	+4 45 42.4	-66.05	22 50.3	32	14 36 19.62	+15.503	-15 19 2.2	-90.57	23 56.6
Day of the Month.						Day of the Month.					
Semidiameter . .						Semidiameter . .					
Hor. Parallax . .						Hor. Parallax . .					
	4.9	5.2	5.2	4.8	4.1	3.5	3.1	2.8	2.6	2.4	2.3
	13.1	13.8	13.7	12.6	11.0	9.4	8.2	7.4	6.8	6.5	6.2

NOTE.—The sign + indicates north declinations; the sign - indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	14 36 19.02	+15.503	-15 19 2.2	-90.57	23 56.6	1	17 47 25.27	+15.632	-25 48 35.0	-5.88	1 7.3
2	14 42 31.90	15.521	15 54 51.9	88.56	23 58.9	2	17 53 38.20	15.440	25 50 12.7	-2.27	1 9.6
3	14 48 44.67	15.544	16 29 52.7	86.50		3	17 59 46.06	15.208	25 50 23.7	+1.35	1 11.8
4	14 54 58.06	15.571	17 4 3.3	84.38	0 1.2	4	18 5 47.82	14.932	25 49 8.0	4.96	1 13.8
5	15 1 12.11	15.601	17 37 22.5	82.21	0 3.5	5	18 11 42.38	14.606	25 46 25.9	8.55	1 15.8
6	15 7 26.94	+15.635	-18 9 48.8	-79.96	0 5.8	6	18 17 28.43	+14.222	-25 42 18.1	+12.10	1 17.6
7	15 13 42.60	15.671	18 41 21.0	77.69	0 8.1	7	18 23 4.52	13.774	25 36 45.8	15.58	1 19.3
8	15 19 59.18	15.710	19 11 57.7	75.35	0 10.5	8	18 28 28.99	13.253	25 29 50.7	18.99	1 20.7
9	15 26 16.72	15.752	19 41 37.6	72.96	0 12.8	9	18 33 40.00	12.648	25 21 35.3	22.27	1 22.0
10	15 32 35.28	15.795	20 10 19.3	70.51	0 15.2	10	18 38 35.38	11.952	25 12 2.8	25.41	1 23.0
11	15 38 54.89	+15.830	-20 38 1.7	-68.01	0 17.6	11	18 43 12.87	+11.154	-25 1 16.9	+28.38	1 23.6
12	15 45 15.57	15.885	21 4 43.4	65.45	0 20.0	12	18 47 29.85	10.241	24 49 22.5	31.12	1 23.9
13	15 51 37.35	15.930	21 30 22.8	62.83	0 22.4	13	18 51 23.44	9.202	24 36 25.4	33.60	1 23.8
14	15 58 0.22	15.975	21 54 58.7	60.16	0 24.8	14	18 54 50.47	8.027	24 22 32.3	35.78	1 23.3
15	16 4 24.16	16.019	22 18 30.0	57.43	0 27.3	15	18 57 47.58	6.707	24 7 50.6	37.63	1 22.3
16	16 10 49.14	+16.022	-22 40 55.0	-54.64	0 29.8	16	19 0 11.18	+5.234	-23 52 29.0	+39.10	1 20.7
17	16 17 15.10	16.102	23 2 12.3	51.79	0 32.3	17	19 1 57.57	3.608	23 36 36.8	40.17	1 18.5
18	16 23 41.97	16.138	23 22 20.4	48.88	0 34.8	18	19 3 3.07	+1.828	23 20 23.8	40.83	1 15.6
19	16 30 9.67	16.169	23 41 18.1	45.91	0 37.3	19	19 3 24.24	-0.086	23 4 0.1	41.07	1 12.0
20	16 36 38.05	16.195	23 59 3.8	42.88	0 39.9	20	19 2 58.09	2.110	22 47 35.7	40.89	1 7.6
21	16 43 6.96	+16.214	-24 15 36.0	-39.79	0 42.4	21	19 1 42.39	-4.206	-22 31 20.5	+40.32	1 2.4
22	16 49 36.24	16.225	24 30 53.3	36.84	0 44.9	22	18 59 36.09	6.316	22 15 23.1	39.41	0 56.3
23	16 56 5.66	16.227	24 44 54.3	33.43	0 47.5	23	18 56 39.71	8.366	21 59 51.3	38.19	0 49.5
24	17 2 34.96	16.217	24 57 37.6	30.17	0 50.1	24	18 52 55.68	10.271	21 44 52.2	36.69	0 41.8
25	17 9 3.87	16.192	25 9 1.8	26.94	0 52.6	25	18 48 28.61	11.937	21 30 32.4	34.92	0 33.4
26	17 15 32.02	+16.152	-25 19 5.4	-23.46	0 55.1	26	18 43 25.35	-13.271	-21 16 58.5	+32.87	0 24.5
27	17 21 59.02	16.095	25 27 47.3	20.03	0 57.6	27	18 37 54.82	14.198	21 4 17.4	30.50	0 15.1
28	17 28 24.41	16.017	25 35 6.2	16.55	1 0.1	28	18 32 7.50	14.683	20 52 37.4	27.76	0 5.4
29	17 34 47.66	15.915	25 41 1.1	13.02	1 2.6	29	18 26 14.80	14.646	20 42 8.1	24.60	23 46.1
30	17 41 8.16	15.788	25 45 30.9	9.46	1 5.0	30	18 20 28.16	14.164	20 32 59.8	21.02	23 36.7
31	17 47 25.27	+15.632	-25 48 35.0	-5.88	1 7.3	31	18 14 58.22	-13.265	-20 25 22.6	+17.02	23 27.7
32	17 53 38.20	+15.440	-25 50 12.7	-2.27	1 9.6	32	18 9 54.20	-12.019	-20 19 25.7	+12.68	23 19.2
Day of the Month.						Day of the Month.					
2d.	7th.	12th.	17th.	22d.	27th.	2d.	7th.	12th.	17th.	22d.	27th.
Semidiameter . . .	2'3	2'3	2'4	2'4	2'5	2'6	Semidiameter . .	2'8	3'1	3'4	3'9
Hor. Parallax . . .	6.1	6.2	6.2	6.4	6.6	6.9	Hor. Parallax . .	7.4	8.1	9.0	10.3
										11.9	13.0
											12.9

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MARCH.						APRIL.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	° ' "	"			h m	h m s	s	° ' "		"	h m		
1	19 44 30.66	+11.476	-19 10 52.6	+16.31	21 9.1	1	22 7 8.64	+11.316	-11 54 25.2	+59.00	21 20.5				
2	19 49 6.36	11.498	19 4 5.9	17.59	21 9.8	2	22 11 40.00	11.297	11 33 26.7	59.88	21 30.0				
3	19 53 42.56	11.518	18 56 48.3	18.88	21 10.5	3	22 16 10.91	11.278	11 12 7.3	59.74	21 30.6				
4	19 58 19.18	11.535	18 48 59.8	20.16	21 11.2	4	22 20 41.37	11.260	10 50 27.7	54.57	21 31.1				
5	20 2 56.17	11.549	18 40 40.3	21.45	21 11.9	5	22 25 11.37	11.241	10 28 28.4	55.38	21 31.7				
6	20 7 33.49	+11.560	-18 31 50.1	+22.73	21 12.6	6	22 29 40.92	+11.223	-10 6 10.0	+56.16	21 32.2				
7	20 12 11.05	11.569	18 22 29.2	24.01	21 13.2	7	22 34 10.01	11.203	9 43 33.1	56.92	21 32.8				
8	20 16 48.80	11.575	18 12 37.8	25.26	21 13.9	8	22 38 38.65	11.184	9 20 38.3	57.65	21 33.3				
9	20 21 26.70	11.580	18 2 16.0	26.54	21 14.5	9	22 43 6.85	11.166	8 57 26.3	58.35	21 33.8				
10	20 26 4.66	11.582	17 51 23.9	27.80	21 15.2	10	22 47 34.62	11.148	8 33 57.7	59.03	21 34.3				
11	20 30 42.66	+11.583	-17 40 1.7	+29.05	21 15.9	11	22 52 1.96	+11.131	- 8 10 13.1	+59.68	21 34.9				
12	20 35 20.65	11.581	17 28 9.6	30.29	21 16.6	12	22 56 28.90	11.114	7 46 13.0	60.31	21 35.4				
13	20 39 58.58	11.578	17 15 47.7	31.52	21 17.2	13	23 0 55.43	11.096	7 21 58.2	60.91	21 35.9				
14	20 44 36.40	11.573	17 2 56.5	32.74	21 17.9	14	23 5 21.59	11.082	6 57 29.2	61.49	21 36.4				
15	20 49 14.09	11.567	16 49 36.2	33.95	21 18.6	15	23 9 47.38	11.068	6 32 46.7	62.04	21 36.9				
16	20 53 51.60	+11.559	-16 35 47.0	+35.14	21 19.3	16	23 14 12.84	+11.054	- 6 7 51.4	+62.57	21 37.3				
17	20 58 28.91	11.550	16 21 29.3	33.39	21 20.0	17	23 18 37.98	11.041	5 42 43.7	63.07	21 37.8				
18	21 3 5.97	11.539	16 6 43.5	37.49	21 20.7	18	23 23 2.83	11.029	5 17 24.3	63.54	21 38.2				
19	21 7 42.77	11.528	15 51 29.8	38.64	21 21.3	19	23 27 27.40	11.018	4 51 53.8	63.99	21 38.7				
20	21 12 19.28	11.515	15 35 48.7	39.78	21 22.0	20	23 31 51.73	11.009	4 26 12.9	64.41	21 39.1				
21	21 16 55.48	+11.502	-15 19 40.5	+40.90	21 22.6	21	23 36 15.84	+11.001	- 4 0 22.2	+64.81	21 39.6				
22	21 21 31.35	11.487	15 3 5.6	42.00	21 23.3	22	23 40 39.78	10.994	3 34 22.2	65.18	21 40.0				
23	21 26 6.87	11.473	14 46 4.5	43.09	21 23.9	23	23 45 3.54	10.988	3 8 13.6	65.53	21 40.5				
24	21 30 42.02	11.456	14 28 37.4	44.16	21 24.6	24	23 49 27.17	10.983	2 41 57.1	65.85	21 41.0				
25	21 35 16.79	11.440	14 10 44.9	45.21	21 25.2	25	23 53 50.69	10.979	2 15 33.1	66.14	21 41.5				
26	21 39 51.16	+11.424	-13 52 27.5	+46.94	21 25.9	26	23 58 14.13	+10.976	- 1 49 2.4	+66.41	21 42.0				
27	21 44 25.14	11.407	13 33 45.6	47.25	21 26.5	27	0 2 37.53	10.974	1 22 25.5	66.65	21 42.5				
28	21 48 58.71	11.390	13 14 39.6	48.24	21 27.1	28	0 7 0.91	10.974	0 55 43.1	66.87	21 42.9				
29	21 53 31.86	11.373	12 55 10.0	49.21	21 27.7	29	0 11 24.30	10.975	0 28 55.8	67.08	21 43.3				
30	21 58 4.57	11.354	12 35 17.4	50.16	21 28.3	30	0 15 47.74	10.977	- 0 2 4.4	67.28	21 43.7				
31	22 2 36.83	+11.335	-12 15 2.3	+51.09	21 28.9	31	0 20 11.24	+10.980	+ 0 24 50.5	+67.35	21 44.1				
32	22 7 8.64	+11.316	-11 54 25.2	+52.00	21 29.5	32	0 24 34.83	+10.985	+ 0 51 48.2	+67.46	21 44.6				
Day of the Month.		2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.		1st.	6th.	11th.	16th.	21st.	26th.
Semidiameter . .		10.6	10.1	9.7	9.3	8.9	8.6	Semidiameter . .		8.3	8.0	7.8	7.5	7.3	7.1
Hor. Parallax . .		11.0	10.5	10.0	9.6	9.3	8.9	Hor. Parallax . .		8.6	8.3	8.0	7.8	7.6	7.4

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The — sign indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m					
1	0 20 11.24	+10.980	+ 0 24 50.5	+67.35	21 44.1	1	2 39 38.06	+11.716	+13 47 20.7	+57.58	22 1.6					
2	0 24 34.83	10.985	0 51 48.2	67.46	21 44.6	2	2 44 19.72	11.757	14 10 13.4	56.80	22 2.4					
3	0 28 58.55	10.991	1 18 48.2	67.54	21 45.1	3	2 49 2.39	11.800	14 32 47.2	56.00	22 3.2					
4	0 33 22.42	10.998	1 45 49.8	67.59	21 45.5	4	2 53 46.10	11.843	14 55 1.4	55.17	22 4.0					
5	0 37 46.48	11.007	2 12 52.2	67.61	21 46.0	5	2 58 30.85	11.887	15 16 55.3	54.31	22 4.8					
6	0 42 10.75	+11.016	+ 2 39 54.8	+67.60	21 46.5	6	3 3 16.66	+11.931	+15 38 28.2	+53.43	22 5.6					
7	0 46 35.26	11.026	3 6 56.9	67.56	21 47.0	7	3 8 3.53	11.975	15 59 39.2	52.50	22 6.5					
8	0 51 0.04	11.038	3 33 57.8	67.50	21 47.4	8	3 12 51.48	12.020	16 20 27.8	51.54	22 7.4					
9	0 55 25.12	11.052	4 0 56.9	67.42	21 47.9	9	3 17 40.51	12.066	16 40 53.1	50.56	22 8.3					
10	0 59 50.53	11.066	4 27 53.5	67.30	21 48.4	10	3 22 30.64	12.112	17 0 54.6	49.55	22 9.2					
11	1 4 16.31	+11.082	+ 4 54 46.9	+67.15	21 48.9	11	3 27 21.87	+12.158	+17 20 31.6	+48.52	22 10.1					
12	1 8 42.48	11.099	5 21 36.4	66.97	21 49.4	12	3 32 14.21	12.204	17 39 43.3	47.45	22 11.0					
13	1 13 9.08	11.118	5 48 21.3	66.76	21 49.9	13	3 37 7.65	12.250	17 58 29.2	46.36	22 12.0					
14	1 17 36.14	11.138	6 15 0.9	66.53	21 50.4	14	3 42 2.19	12.296	18 16 48.4	45.23	22 13.0					
15	1 22 3.69	11.159	6 41 34.6	66.27	21 50.9	15	3 46 57.84	12.342	18 34 40.3	44.08	22 14.0					
16	1 26 31.76	+11.181	+ 7 8 1.8	+65.99	21 51.4	16	3 51 54.59	+12.388	+18 52 4.3	+42.91	22 15.0					
17	1 31 0.39	11.205	7 34 21.8	65.69	21 51.9	17	3 56 52.45	12.434	19 8 59.8	41.71	22 16.1					
18	1 35 29.60	11.230	8 0 34.1	65.34	21 52.5	18	4 1 51.40	12.479	19 25 26.1	40.48	22 17.1					
19	1 39 59.43	11.257	8 26 37.7	64.96	21 53.0	19	4 6 51.43	12.524	19 41 22.5	39.22	22 18.2					
20	1 44 29.92	11.285	8 52 32.0	64.56	21 53.6	20	4 11 52.56	12.569	19 56 48.5	37.94	22 19.3					
21	1 49 1.10	+11.314	+ 9 18 16.6	+64.13	21 54.2	21	4 16 54.76	+12.614	+20 11 43.5	+36.64	22 20.4					
22	1 53 33.01	11.345	9 43 50.5	63.68	21 54.8	22	4 21 58.02	12.658	20 26 6.8	35.31	22 21.5					
23	1 58 5.67	11.377	10 9 13.3	63.21	21 55.4	23	4 27 2.32	12.701	20 39 57.8	33.95	22 22.7					
24	2 2 39.10	11.410	10 34 24.2	62.70	21 56.0	24	4 32 7.64	12.743	20 53 16.1	32.57	22 23.8					
25	2 7 13.35	11.445	10 59 22.5	62.16	21 56.6	25	4 37 13.95	12.784	21 6 1.1	31.17	22 25.0					
26	2 11 48.44	+11.480	+11 24 7.6	+61.59	21 57.3	26	4 42 21.24	+12.824	+21 18 12.1	+29.75	22 26.2					
27	2 16 24.40	11.517	11 48 38.8	60.99	21 58.0	27	4 47 29.48	12.863	21 29 48.7	28.30	22 27.4					
28	2 21 1.25	11.554	12 12 55.2	60.37	21 58.7	28	4 52 38.66	12.901	21 40 50.2	26.83	22 28.6					
29	2 25 39.02	11.593	12 36 56.3	59.72	21 59.4	29	4 57 48.73	12.937	21 51 16.2	25.34	22 29.8					
30	2 30 17.73	11.633	13 0 41.4	59.04	22 0.1	30	5 2 59.66	12.972	22 1 6.2	23.83	22 31.0					
31	2 34 57.41	+11.674	+13 24 9.8	+58.32	22 0.8	31	5 8 11.41	+13.006	+22 10 19.8	+22.30	22 32.3					
32	2 39 38.06	+11.715	+13 47 20.7	+57.58	22 1.6	32	5 13 23.94	+13.038	+22 18 56.4	+20.75	22 33.6					
Day of the Month.		1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.		5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .		6.9	6.7	6.6	6.4	6.3	6.2	6.0	Semidiameter . .		5.9	5.8	5.7	5.6	5.5	5.5
Hor. Parallax . .		7.2	7.0	6.8	6.6	6.5	6.4	6.2	Hor. Parallax . .		6.1	6.0	5.9	5.8	5.7	5.6

NOTE.—The sign + indicates north declinations: the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m		
1	5 8 11.41	+13.006	+22 10 19.8	+22.30	22 32.3	1	7 51 42.92	+13.035	+21 31 11.6	-28.78	23 13.7		
2	5 13 23.94	13.038	22 18 56.4	20.75	22 33.6	2	7 56 55.40	13.004	21 19 22.2	30.34	23 14.9		
3	5 18 37.21	13.068	22 26 55.6	19.18	22 34.9	3	8 2 7.12	12.972	21 6 55.5	31.88	23 16.2		
4	5 23 51.18	13.096	22 34 17.0	17.60	22 36.2	4	8 7 18.04	12.938	20 53 52.0	33.41	23 17.4		
5	5 29 5.80	13.122	22 41 0.2	16.00	22 37.5	5	8 12 28.13	12.903	20 40 12.0	34.92	23 18.6		
6	5 34 21.03	+13.146	+22 47 5.0	+14.39	22 38.8	6	8 17 37.37	+12.867	+20 25 56.0	-36.41	23 19.8		
7	5 39 36.82	13.168	22 52 30.9	12.77	22 40.2	7	8 22 45.72	12.830	20 11 4.6	37.88	23 21.0		
8	5 44 53.12	13.189	22 57 17.7	11.13	22 41.5	8	8 27 53.17	12.791	19 55 38.3	39.32	23 22.2		
9	5 50 9.88	13.207	23 1 25.1	9.48	22 42.9	9	8 32 59.68	12.751	19 39 37.6	40.74	23 23.4		
10	5 55 27.04	13.223	23 4 52.8	7.89	22 44.2	10	8 38 5.22	12.711	19 23 3.0	42.14	23 24.5		
11	6 0 44.56	+13.237	+23 7 40.4	+6.14	22 45.6	11	8 43 9.79	+12.670	+19 5 55.1	-43.52	23 25.6		
12	6 6 2.38	13.248	23 9 48.0	4.48	22 46.9	12	8 48 13.37	12.628	18 48 14.4	44.87	23 26.7		
13	6 11 20.45	13.257	23 11 15.4	2.80	22 48.3	13	8 53 15.94	12.586	18 30 1.6	46.19	23 27.8		
14	6 16 38.72	13.264	23 12 2.4	+1.11	22 49.7	14	8 58 17.50	12.543	18 11 17.3	47.49	23 28.8		
15	6 21 57.13	13.269	23 12 8.8	-0.58	22 51.1	15	9 3 18.02	12.501	17 52 2.1	48.77	23 29.9		
16	6 27 15.63	+13.272	+23 11 34.6	-2.27	22 52.5	16	9 8 17.52	+12.458	+17 32 16.6	-50.02	23 30.9		
17	6 32 34.18	13.273	23 10 19.7	3.97	22 53.8	17	9 13 15.98	12.415	17 12 1.4	51.34	23 31.9		
18	6 37 52.71	13.271	23 8 24.2	5.66	22 55.2	18	9 18 13.41	12.372	16 51 17.2	52.44	23 32.9		
19	6 43 11.19	13.267	23 5 48.2	7.35	22 56.5	19	9 23 9.82	12.329	16 30 4.6	53.61	23 33.9		
20	6 48 29.54	13.261	23 2 31.4	9.04	22 57.9	20	9 28 5.20	12.286	16 8 24.3	54.75	23 34.9		
21	6 53 47.72	+13.253	+22 58 34.1	-10.73	22 59.2	21	9 32 59.56	+12.244	+15 46 17.0	-55.86	23 35.8		
22	6 59 5.69	13.243	22 53 56.3	12.41	23 0.6	22	9 37 52.91	12.202	15 23 43.1	56.95	23 36.8		
23	7 4 23.39	13.231	22 48 38.2	14.09	23 1.9	23	9 42 45.26	12.160	15 0 43.6	58.01	23 37.7		
24	7 9 40.78	13.217	22 42 39.9	15.76	23 3.3	24	9 47 36.61	12.119	14 37 19.0	59.04	23 38.6		
25	7 14 57.81	13.201	22 36 1.6	17.43	23 4.6	25	9 52 26.99	12.079	14 13 30.1	60.04	23 39.5		
26	7 20 14.42	+13.183	+22 28 43.4	-19.08	23 5.9	26	9 57 16.41	+12.039	+13 49 17.4	-61.01	23 40.3		
27	7 25 30.58	13.163	22 20 45.5	20.73	23 7.2	27	10 2 4.89	12.000	13 24 41.8	61.95	23 41.2		
28	7 30 46.23	13.141	22 12 8.3	22.36	23 8.5	28	10 6 52.44	11.962	12 59 44.0	62.86	23 42.0		
29	7 36 1.34	13.117	22 2 52.0	23.99	23 9.8	29	10 11 39.08	11.925	12 34 24.5	63.74	23 42.8		
30	7 41 15.85	13.091	21 52 56.9	25.60	23 11.1	30	10 16 24.82	11.888	12 8 44.1	64.60	23 43.6		
31	7 46 29.72	+13.064	+21 42 23.3	-27.20	23 12.4	31	10 21 9.68	+11.852	+11 42 43.6	-65.42	23 44.4		
32	7 51 42.92	+13.035	+21 31 11.6	-28.78	23 13.7	32	10 25 53.70	+11.817	+11 16 23.6	-66.22	23 45.2		
Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter	5.4	5.3	5.3	5.2	5.2	5.1	Semidiameter	5.1	5.1	5.0	5.0	5.0	5.0
Hor. Parallax	5.6	5.5	5.5	5.4	5.4	5.3	Hor. Parallax	5.3	5.2	5.2	5.2	5.2	5.2

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations are increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m				
1	10 25 53.70	+11.817	+11 16 23.6	-66.92	23 45.2	1	12 43 55.50	+11.430	- 3 23 23.3	-75.85	0 4.2				
2	10 30 36.90	11.783	10 49 45.0	66.99	23 46 0	2	12 48 29.97	11.443	3 53 41.8	75.70	0 4.9				
3	10 35 19.29	11.750	10 22 48.4	67.72	23 46.7	3	12 53 4.78	11.458	4 23 56.2	75.51	0 5.5				
4	10 40 0.91	11.719	9 55 34.7	68.42	23 47.5	4	12 57 39.96	11.475	4 54 5.8	75.29	0 6.1				
5	10 44 41.78	11.688	9 28 4.4	69.09	23 48.2	5	13 2 15.55	11.493	5 24 9.8	75.04	0 6.8				
6	10 49 21.92	+11.658	+ 9 0 18.5	-69.73	23 48.9	6	13 6 51.59	+11.513	- 5 54 7.4	-74.76	0 7.4				
7	10 54 1.38	11.630	8 32 17.6	70.34	23 49.6	7	13 11 28.14	11.534	6 23 57.8	74.44	0 8.1				
8	10 58 40.17	11.603	8 4 2.4	70.92	23 50.3	8	13 16 5.21	11.557	6 53 40.2	74.09	0 8.8				
9	11 3 18.33	11.577	7 35 33.7	71.47	23 51.0	9	13 20 42.85	11.581	7 23 13.9	73.71	0 9.5				
10	11 7 55.89	11.553	7 6 52.2	71.99	23 51.7	10	13 25 21.10	11.607	7 52 38.0	73.30	0 10.2				
11	11 12 32.88	+11.530	+ 6 37 58.7	-72.47	23 52.3	11	13 29 59.98	+11.635	- 8 21 51.8	-72.85	0 10.9				
12	11 17 9.35	11.509	6 8 53.9	72.92	23 53.0	12	13 34 39.56	11.665	8 50 54.6	72.37	0 11.6				
13	11 21 45.34	11.489	5 39 38.5	73.35	23 53.6	13	13 39 19.88	11.696	9 19 45.5	71.86	0 12.3				
14	11 26 20.87	11.471	5 10 13.2	73.74	23 54.3	14	13 44 0.96	11.729	9 48 23.7	71.32	0 13.1				
15	11 30 55.99	11.455	4 40 38.7	74.11	23 54.9	15	13 48 42.82	11.763	10 16 48.4	70.74	0 13.9				
16	11 35 30.73	+11.441	+ 4 10 55.9	-74.45	23 55.6	16	13 53 25.53	+11.798	-10 44 59.1	-70.14	0 14.6				
17	11 40 5.14	11.426	3 41 5.5	74.75	23 56.3	17	13 58 9.11	11.835	11 12 54.8	69.50	0 15.4				
18	11 44 39.25	11.417	3 11 8.1	75.02	23 56.8	18	14 2 53.59	11.873	11 40 34.9	68.83	0 16.2				
19	11 49 13.12	11.407	2 41 4.5	75.27	23 57.4	19	14 7 39.01	11.913	12 7 58.4	68.13	0 17.0				
20	11 53 46.78	11.399	2 10 55.3	75.48	23 58.0	20	14 12 25.41	11.954	12 35 4.7	67.39	0 17.8				
21	11 58 20.28	+11.393	+ 1 40 41.3	-75.68	23 58.6	21	14 17 12.82	+11.997	-13 1 52.8	-66.62	0 18.6				
22	12 2 53.06	11.388	1 10 23.2	75.83	23 59.2	22	14 22 1.26	12.040	13 28 22.1	65.82	0 19.5				
23	12 7 26.95	11.386	0 40 1.7	75.96	23 59.9	23	14 26 50.76	12.085	13 54 31.7	64.98	0 20.4				
24	12 12 0.20	11.386	+ 0 9 37.5	76.06		24	14 31 41.36	12.131	14 20 20.9	64.11	0 21.3				
25	12 16 33.46	11.387	- 0 20 48.6	76.19	0 0.5	25	14 36 33.08	12.178	14 45 48.8	63.21	0 22.2				
26	12 21 6.77	+11.390	- 0 51 15.8	-76.15	0 1.1	26	14 41 25.93	+12.226	-15 10 54.7	-62.27	0 23.2				
27	12 25 40.18	11.394	1 21 43.4	76.15	0 1.7	27	14 46 19.94	12.275	15 35 37.7	61.30	0 24.1				
28	12 30 13.71	11.400	1 52 10.7	76.12	0 2.4	28	14 51 15.13	12.325	15 59 57.0	60.30	0 25.1				
29	12 34 47.41	11.408	2 22 37.0	76.06	0 3.0	29	14 56 11.52	12.375	16 23 51.9	59.26	0 26.1				
30	12 39 21.33	11.418	2 53 1.4	75.97	0 3.6	30	15 1 9.12	12.426	16 47 21.5	58.19	0 27.1				
31	12 43 55.50	+11.430	- 3 23 23.3	-75.85	0 4.2	31	15 6 7.94	+12.477	-17 10 25.0	-57.09	0 28.2				
32	12 48 29.97	+11.443	- 3 53 41.8	-75.70	0 4.9	32	15 11 7.99	+12.528	-17 33 1.6	-55.95	0 29.2				
Day of the Month.		3d.	8th.	13th.	18th.	23d.	28th.	Day of the Month.		3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter . .		5.0	5.0	5.0	5.0	5.0	5.0	Semidiameter . .		5.0	5.0	5.0	5.0	5.1	5.1
Hor. Parallax . .		5.1	5.1	5.1	5.1	5.1	5.2	Hor. Parallax . .		5.2	5.2	5.2	5.2	5.2	5.3

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	15 11 7.99	+12.598	-17 33 1.6	-55.95	0 29.2	1	17 49 46.20	+13.713	-24 22 57.8	- 8.72	1 9.6			
2	15 16 9.27	12.579	17 55 10.5	54.78	0 30.3	2	17 55 15.44	13.723	24 26 4.7	6.85	1 11.1			
3	15 21 11.80	12.631	18 16 50.8	53.59	0 31.4	3	18 0 44.90	13.730	24 28 26.5	4.97	1 12.7			
4	15 26 15.57	12.683	18 38 1.8	52.34	0 32.5	4	18 6 14.50	13.735	24 30 3.2	3.08	1 14.2			
5	15 31 20.58	12.735	18 58 42.7	51.07	0 33.7	5	18 11 44.17	13.736	24 30 54.6	- 1.90	1 15.8			
6	15 36 26.83	+12.786	-19 18 52.8	-49.77	0 34.8	6	18 17 13.85	+13.735	-24 31 0.7	+ 0.69	1 17.3			
7	15 41 34.31	12.837	19 38 31.2	48.44	0 36.0	7	18 22 43.45	13.731	24 30 21.6	9.58	1 18.9			
8	15 46 43.01	12.888	19 57 37.2	47.07	0 37.2	8	18 28 12.92	13.724	24 28 57.0	4.46	1 20.4			
9	15 51 52.92	12.938	20 16 10.1	45.67	0 38.4	9	18 33 42.17	13.714	24 26 47.1	6.34	1 22.0			
10	15 57 4.04	12.988	20 34 9.2	44.25	0 39.6	10	18 39 11.14	13.701	24 23 52.2	8.22	1 23.5			
11	16 2 16.34	+13.037	-20 51 33.7	-43.79	0 40.9	11	18 44 39.77	+13.685	-24 20 12.4	+10.10	1 25.1			
12	16 7 29.82	13.085	21 8 22.8	41.31	0 42.2	12	18 50 7.99	13.667	24 15 47.6	11.97	1 26.6			
13	16 12 44.44	13.132	21 24 35.9	39.79	0 43.5	13	18 55 35.74	13.646	24 10 38.1	13.83	1 28.2			
14	16 18 0.18	13.179	21 40 12.4	38.25	0 44.8	14	19 1 2.94	13.623	24 4 44.2	15.67	1 29.7			
15	16 23 17.03	13.225	21 55 11.6	36.68	0 46.2	15	19 6 29.55	13.597	23 58 6.1	17.51	1 31.2			
16	16 28 34.95	+13.269	-22 9 32.9	-35.09	0 47.5	16	19 11 55.52	+13.568	-23 50 44.1	+19.33	1 32.7			
17	16 33 53.92	13.319	22 23 15.6	33.47	0 48.9	17	19 17 20.77	13.537	23 42 38.5	21.14	1 34.1			
18	16 39 13.91	13.363	22 36 19.3	31.83	0 50.3	18	19 22 45.25	13.504	23 33 49.6	22.93	1 35.6			
19	16 44 34.87	13.393	22 48 43.3	30.17	0 51.7	19	19 28 8.91	13.469	23 24 17.8	24.71	1 37.0			
20	16 49 56.77	13.422	23 0 27.1	28.48	0 53.1	20	19 33 31.72	13.432	23 14 3.5	26.47	1 38.5			
21	16 55 19.57	+13.460	-23 11 30.0	-26.76	0 54.6	21	19 38 53.60	+13.392	-23 3 7.2	+28.21	1 39.9			
22	17 0 43.23	13.504	23 21 51.6	25.03	0 56.0	22	19 44 14.51	13.351	22 51 29.4	29.93	1 41.3			
23	17 6 7.70	13.537	23 31 31.5	23.28	0 57.5	23	19 49 34.41	13.308	22 39 10.6	31.63	1 42.7			
24	17 11 32.94	13.567	23 40 29.1	21.51	0 59.0	24	19 54 53.25	13.263	22 26 11.2	33.31	1 44.1			
25	17 16 58.88	13.595	23 48 44.1	19.73	1 0.5	25	20 0 11.01	13.217	22 12 31.7	34.97	1 45.4			
26	17 22 25.47	+13.621	-23 56 16.0	-17.93	1 2.0	26	20 5 27.65	+13.169	-21 58 12.8	+36.60	1 46.8			
27	17 27 52.67	13.645	24 3 4.5	16.11	1 3.5	27	20 10 43.12	13.120	21 43 15.0	38.21	1 48.1			
28	17 33 20.40	13.666	24 9 9.3	14.28	1 5.0	28	20 15 57.38	13.069	21 27 38.9	39.79	1 49.4			
29	17 38 48.61	13.684	24 14 29.9	12.43	1 6.5	29	20 21 10.41	13.017	21 11 25.1	41.35	1 50.7			
30	17 44 17.23	13.700	24 19 6.2	10.58	1 8.0	30	20 26 22.19	12.964	20 54 34.3	42.88	1 51.9			
31	17 49 46.20	+13.713	-24 22 57.8	- 8.72	1 9.6	31	20 31 32.69	+12.910	-20 37 7.1	+44.38	1 53.1			
32	17 55 15.44	+13.723	-24 26 4.7	- 6.85	1 11.1	32	20 36 41.88	+12.855	-20 19 4.4	+45.85	1 54.3			
Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	32d.
Semidiameter . . .	5.1	5.2	5.2	5.2	5.3	5.3	Semidiameter . .	5.4	5.4	5.5	5.6	5.6	5.7	5.8
Hor. Parallax . . .	5.3	5.3	5.4	5.4	5.5	5.5	Hor. Parallax . .	5.6	5.6	5.7	5.8	5.8	5.9	6.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	22 53 13.94	+6.910	-7 58 54.1	+45.93	4 9.6	1	0 17 23.86	+6.707	+1 33 48.1	+45.99	3 31.6
2	22 55 59.65	6.900	7 40 46.9	45.36	4 8.5	2	0 20 4.81	6.706	1 52 11.0	45.91	3 30.4
3	22 58 45.12	6.889	7 22 36.6	45.48	4 7.3	3	0 22 45.73	6.705	2 10 31.9	45.83	3 29.1
4	23 1 30.33	6.879	7 4 23.5	45.60	4 6.1	4	0 25 26.63	6.704	2 28 50.6	45.79	3 27.9
5	23 4 15.31	6.870	6 46 7.6	45.71	4 4.9	5	0 28 7.50	6.704	2 47 7.0	45.69	3 26.6
6	23 7 0.07	+6.861	-6 27 49.1	+45.82	4 3.7	6	0 30 48.36	+6.703	+3 5 20.9	+45.59	3 25.3
7	23 9 44.61	6.852	6 9 28.2	45.92	4 2.5	7	0 33 29.21	6.703	3 23 32.1	45.41	3 24.1
8	23 12 28.95	6.843	5 51 5.0	46.01	4 1.3	8	0 36 10.07	6.703	3 41 40.5	45.29	3 22.8
9	23 15 13.08	6.835	5 32 39.7	46.10	4 0.1	9	0 38 50.94	6.703	3 59 46.0	45.16	3 21.6
10	23 17 57.01	6.827	5 14 12.5	46.18	3 58.9	10	0 41 31.82	6.704	4 17 48.5	45.03	3 20.3
11	23 20 40.75	+6.819	-4 55 43.5	+46.25	3 57.7	11	0 44 12.72	+6.705	+4 35 47.7	+44.89	3 19.0
12	23 23 24.30	6.811	4 37 13.0	46.31	3 56.5	12	0 46 53.64	6.706	4 53 43.4	44.75	3 17.8
13	23 26 7.66	6.803	4 18 41.2	46.36	3 55.2	13	0 49 34.58	6.707	5 11 35.6	44.60	3 16.5
14	23 28 50.84	6.796	4 0 8.1	46.40	3 54.0	14	0 52 15.55	6.708	5 29 24.0	44.44	3 15.3
15	23 31 33.85	6.789	3 41 34.0	46.44	3 52.7	15	0 54 56.56	6.710	5 47 8.5	44.27	3 14.0
16	23 34 16.69	+6.782	-3 22 59.2	+46.47	3 51.5	16	0 57 37.61	+6.712	+6 4 49.0	+44.09	3 12.7
17	23 36 59.37	6.775	3 4 23.7	46.49	3 50.3	17	1 0 18.70	6.714	6 22 25.3	43.91	3 11.5
18	23 39 41.88	6.768	2 45 47.7	46.50	3 49.1	18	1 2 59.85	6.716	6 39 57.3	43.73	3 10.2
19	23 42 24.24	6.762	2 27 11.4	46.50	3 47.9	19	1 5 41.06	6.718	6 57 24.7	43.54	3 9.0
20	23 45 6.45	6.756	2 8 35.0	46.50	3 46.6	20	1 8 22.33	6.721	7 14 47.5	43.35	3 7.7
21	23 47 48.51	+6.750	-1 49 58.8	+46.50	3 45.4	21	1 11 3.66	+6.724	+7 32 5.5	+43.15	3 6.4
22	23 50 30.43	6.744	1 31 22.8	46.49	3 44.1	22	1 13 45.06	6.727	7 49 18.5	42.94	3 5.2
23	23 53 12.23	6.739	1 12 47.2	46.47	3 42.9	23	1 16 26.55	6.730	8 6 26.5	42.79	3 3.9
24	23 55 53.90	6.734	0 54 12.2	46.44	3 41.6	24	1 19 8.12	6.734	8 23 29.3	42.50	3 2.7
25	23 58 35.46	6.729	0 35 38.0	46.41	3 40.4	25	1 21 49.79	6.738	8 40 26.8	42.28	3 1.4
26	0 1 16.90	+6.725	-0 17 4.7	+46.37	3 39.1	26	1 24 31.57	+6.743	+8 57 18.9	+42.05	3 0.2
27	0 3 58.24	6.721	+0 1 27.5	46.33	3 37.9	27	1 27 13.46	6.748	9 14 5.4	41.81	2 58.9
28	0 6 39.51	6.718	0 19 58.6	46.28	3 36.6	28	1 29 55.47	6.753	9 30 46.2	41.57	2 57.7
29	0 9 20.69	6.715	0 38 28.4	46.22	3 35.4	29	1 32 37.60	6.759	9 47 21.3	41.33	2 56.4
30	0 12 1.80	6.712	0 56 56.6	46.15	3 34.1	30	1 35 19.86	6.765	10 3 50.4	41.09	2 55.2
31	0 14 42.85	+6.709	+1 15 23.3	+46.07	3 32.9	31	1 38 2.27	+6.770	+10 20 13.5	+40.84	2 53.9
32	0 17 23.86	+6.707	+1 33 48.1	+45.99	3 31.6	32	1 40 44.82	+6.776	+10 36 30.4	+40.58	2 52.7

Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.
Semidiameter . .	3.1	3.1	3.0	3.0	2.9	2.9	2.8	Semidiameter	2.8	2.7	2.7	2.6	2.6
Hor. Parallax . .	5.5	5.4	5.3	5.2	5.1	5.0	4.9	Hor. Parallax	4.8	4.7	4.6	4.5	4.4

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
	h m s	s	° ' "	"			h m	h m s	s	° ' "		"				
1	1 32 37.60	+6.759	+ 9 47 21.3	+41.33	2 56.4	1	2 57 48.74	+6.999	+17 22 16.9	+31.94	2 19.5					
2	1 35 19.86	6.765	10 3 50.4	41.09	2 55.2	2	3 0 36.82	7.008	17 34 42.0	30.84	2 18.3					
3	1 38 2.27	6.770	10 20 13.5	40.84	2 53.9	3	3 3 25.13	7.017	17 46 57.5	30.44	2 17.2					
4	1 40 44.82	6.776	10 36 30.4	40.58	2 52.7	4	3 6 13.67	7.027	17 59 3.2	30.03	2 16.0					
5	1 43 27.51	6.782	10 52 41.1	40.32	2 51.5	5	3 9 2.43	7.036	18 10 59.2	29.62	2 14.9					
6	1 46 10.37	+6.789	+11 8 45.3	+40.05	2 50.3	6	3 11 51.42	+7.046	+18 22 45.3	+29.21	2 13.8					
7	1 48 53.39	6.796	11 24 43.1	39.77	2 49.1	7	3 14 40.63	7.055	18 34 21.4	28.80	2 12.6					
8	1 51 36.57	6.803	11 40 34.3	39.49	2 47.8	8	3 17 30.07	7.064	18 45 47.5	28.38	2 11.5					
9	1 54 19.92	6.810	11 56 18.6	39.20	2 46.6	9	3 20 19.73	7.074	18 57 3.3	27.95	2 10.4					
10	1 57 3.44	6.817	12 11 56.0	38.91	2 45.4	10	3 23 9.60	7.083	19 8 8.9	27.52	2 9.3					
11	1 59 47.14	+6.824	+12 27 26.4	+38.62	2 44.2	11	3 25 59.69	+7.092	+19 19 4.1	+27.09	2 8.2					
12	2 2 31.02	6.831	12 42 49.6	38.32	2 43.0	12	3 28 49.98	7.101	19 29 48.8	26.65	2 7.1					
13	2 5 15.07	6.839	12 58 5.6	38.01	2 41.8	13	3 31 40.48	7.109	19 40 23.0	26.21	2 6.0					
14	2 7 59.30	6.847	13 13 14.1	37.70	2 40.6	14	3 34 31.19	7.117	19 50 46.5	25.76	2 4.9					
15	2 10 43.72	6.854	13 28 15.1	37.38	2 39.4	15	3 37 22.09	7.125	20 0 59.2	25.31	2 3.8					
16	2 13 28.33	+6.862	+13 43 8.3	+37.05	2 38.2	16	3 40 13.19	+7.133	+20 11 1.1	+24.86	2 2.8					
17	2 16 13.12	6.870	13 57 53.7	36.72	2 37.0	17	3 43 4.48	7.141	20 20 52.1	24.40	2 1.7					
18	2 18 58.09	6.878	14 12 31.1	36.39	2 35.8	18	3 45 55.96	7.149	20 30 32.1	23.94	2 0.6					
19	2 21 43.25	6.886	14 27 0.5	36.06	2 34.6	19	3 48 47.62	7.157	20 40 1.0	23.48	1 59.5					
20	2 24 28.61	6.894	14 41 21.7	35.72	2 33.4	20	3 51 39.46	7.164	20 49 18.8	23.01	1 58.4					
21	2 27 14.16	+6.902	+14 55 34.5	+35.37	2 32.3	21	3 54 31.48	+7.171	+20 58 25.3	+22.54	1 57.4					
22	2 29 59.91	6.910	15 9 39.0	35.01	2 31.1	22	3 57 23.67	7.178	21 7 20.6	22.07	1 56.3					
23	2 32 45.85	6.919	15 23 34.9	34.65	2 29.9	23	4 0 16.03	7.185	21 16 4.6	21.59	1 55.2					
24	2 35 31.99	6.927	15 37 22.1	34.29	2 28.7	24	4 3 8.57	7.192	21 24 37.1	21.11	1 54.1					
25	2 38 18.34	6.935	15 51 0.6	33.92	2 27.5	25	4 6 1.27	7.199	21 32 58.2	20.63	1 53.1					
26	2 41 4.89	+6.944	+16 4 30.2	+33.55	2 26.3	26	4 8 54.13	+7.206	+21 41 7.7	+20.15	1 52.0					
27	2 43 51.65	6.953	16 17 50.9	33.18	2 25.2	27	4 11 47.15	7.213	21 49 5.6	19.67	1 51.0					
28	2 46 38.63	6.962	16 31 2.5	32.80	2 24.1	28	4 14 40.33	7.219	21 56 52.0	19.19	1 49.9					
29	2 49 25.82	6.971	16 44 5.0	32.41	2 23.0	29	4 17 33.67	7.226	22 4 26.8	18.70	1 48.9					
30	2 52 13.24	6.980	16 56 58.3	32.02	2 21.8	30	4 20 27.16	7.232	22 11 49.8	18.21	1 47.8					
31	2 55 0.88	+6.989	+17 9 42.3	+31.63	2 20.6	31	4 23 20.79	+7.238	+22 19 1.0	+17.72	1 46.8					
32	2 57 48.74	+6.999	+17 22 16.9	+31.24	2 19.5	32	4 26 14.56	+7.244	+22 26 0.4	+17.23	1 45.7					
Day of the Month.		2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.		1st.	6th.	11th.	16th.	21st.	26th.	31st.
Semidiameter . .		2.5	2.5	2.4	2.4	2.3	2.3	Semidiameter . .		2.3	2.2	2.2	2.2	2.2	2.1	2.1
Hor. Parallax . .		4.4	4.3	4.2	4.2	4.1	4.1	Hor. Parallax . .		4.0	4.0	3.9	3.9	3.8	3.8	3.7

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The — sign indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
	h m s	s	° ' "	"			h m s	s	° ' "	"						
1	4 23 20.79	+7.938	+22 19 1.0	+17.79	1 46.8	1	5 53 36.67	+7.970	+24 21 16.8	+1.90	1 14.9					
2	4 26 14.56	7.944	22 26 0.4	17.33	1 45.7	2	5 56 31.11	7.966	24 21 56.3	1.39	1 13.8					
3	4 29 8.47	7.949	22 32 48.0	16.74	1 44.7	3	5 59 25.46	7.962	24 22 23.5	0.88	1 12.8					
4	4 32 2.51	7.954	22 39 23.6	16.25	1 43.7	4	6 2 19.70	7.957	24 22 38.4	+0.37	1 11.7					
5	4 34 56.67	7.959	22 45 47.3	15.76	1 42.6	5	6 5 13.82	7.952	24 22 41.2	-0.14	1 10.7					
6	4 37 50.96	+7.964	+22 51 59.0	+15.37	1 41.6	6	6 8 7.81	+7.946	+24 22 31.7	-0.65	1 9.6					
7	4 40 45.35	7.968	22 57 58.6	14.78	1 40.6	7	6 11 1.68	7.940	24 22 10.1	1.16	1 8.5					
8	4 43 39.85	7.973	23 3 46.2	14.37	1 39.5	8	6 13 55.40	7.934	24 21 36.4	1.66	1 7.5					
9	4 46 34.44	7.976	23 9 21.6	13.76	1 38.5	9	6 16 48.96	7.928	24 20 50.6	2.16	1 6.4					
10	4 49 29.11	7.980	23 14 44.9	13.34	1 37.5	10	6 19 42.34	7.921	24 19 52.7	2.66	1 5.4					
11	4 52 23.86	+7.983	+23 19 55.9	+12.79	1 36.4	11	6 22 35.58	+7.914	+24 18 42.8	-3.16	1 4.3					
12	4 55 18.67	7.985	23 24 54.7	12.30	1 35.4	12	6 25 28.63	7.906	24 17 20.9	3.66	1 3.3					
13	4 58 13.55	7.987	23 29 41.3	11.69	1 34.4	13	6 28 21.48	7.198	24 15 47.1	4.16	1 2.2					
14	5 1 8.47	7.990	23 34 15.6	11.17	1 33.3	14	6 31 14.13	7.190	24 14 1.4	4.65	1 1.2					
15	5 4 3.43	7.991	23 38 37.5	10.66	1 32.3	15	6 34 6.58	7.181	24 12 3.9	5.14	1 0.1					
16	5 6 58.43	+7.992	+23 42 47.1	+10.14	1 31.3	16	6 36 58.81	+7.172	+24 9 54.6	-5.63	0 59.1					
17	5 9 53.45	7.993	23 46 44.3	9.63	1 30.2	17	6 39 50.82	7.163	24 7 33.6	6.12	0 58.0					
18	5 12 48.49	7.993	23 50 29.1	9.11	1 29.2	18	6 42 42.60	7.153	24 5 0.9	6.61	0 56.9					
19	5 15 43.53	7.993	23 54 1.5	8.60	1 28.1	19	6 45 34.15	7.143	24 2 16.6	7.09	0 55.8					
20	5 18 38.57	7.993	23 57 21.6	8.08	1 27.1	20	6 48 25.46	7.133	23 59 20.8	7.57	0 54.7					
21	5 21 33.60	+7.992	+24 0 29.3	+7.56	1 26.1	21	6 51 16.52	+7.122	+23 56 13.5	-8.05	0 53.6					
22	5 24 28.62	7.992	24 3 24.5	7.04	1 25.0	22	6 54 7.33	7.112	23 52 54.7	8.52	0 52.5					
23	5 27 23.62	7.991	24 6 7.3	6.52	1 24.0	23	6 56 57.89	7.101	23 49 24.6	8.90	0 51.4					
24	5 30 18.59	7.990	24 8 37.8	6.00	1 23.0	24	6 59 48.19	7.090	23 45 43.2	9.46	0 50.3					
25	5 33 13.54	7.989	24 10 56.0	5.49	1 22.0	25	7 2 38.23	7.079	23 41 50.6	9.93	0 49.2					
26	5 36 8.44	+7.987	+24 13 1.7	+4.98	1 21.0	26	7 5 28.00	+7.068	+23 37 46.8	-10.39	0 48.1					
27	5 39 3.30	7.985	24 14 55.1	4.47	1 20.0	27	7 8 17.50	7.057	23 33 31.9	10.85	0 47.0					
28	5 41 58.11	7.983	24 16 36.1	3.95	1 19.0	28	7 11 6.72	7.046	23 29 5.9	11.31	0 45.9					
29	5 44 52.85	7.980	24 18 4.8	3.44	1 18.0	29	7 13 55.67	7.034	23 24 29.0	11.77	0 44.8					
30	5 47 47.53	7.977	24 19 21.1	2.92	1 16.9	30	7 16 44.34	7.022	23 19 41.2	12.22	0 43.6					
31	5 50 42.14	+7.974	+24 20 25.1	+2.41	1 15.9	31	7 19 32.71	+7.010	+23 14 42.6	-12.67	0 42.5					
32	5 53 36.67	+7.970	+24 21 16.8	+1.90	1 14.9	32	7 22 20.78	+6.997	+23 9 33.2	-13.11	0 41.4					
Day of the Month.		1st.	4th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.		5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .		2.1	2.1	2.1	2.1	2.0	2.0	2.0	Semidiameter . .		2.0	2.0	2.0	2.0	1.9	1.9
Hor. Parallax . .		3.7	3.7	3.6	3.6	3.6	3.5	3.5	Hor. Parallax . .		3.5	3.5	3.4	3.4	3.4	3.4

NOTE.—The sign + indicates north declinations: the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m		
1	7 19 32.71	+7.010	+23 14 42.6	-12.67	0 42.5	1	8 43 44.56	+6.559	+19 18 44.0	-24.78	0 4.5		
2	7 22 20.78	6.997	23 9 33.2	13.11	0 41.4	2	8 46 21.81	6.544	19 8 45.3	25.11	0 3.2		
3	7 25 8.55	6.984	23 4 13.2	13.55	0 40.2	3	8 48 58.70	6.529	18 58 38.7	25.43	0 1.9		
4	7 27 56.02	6.971	22 58 42.6	13.99	0 39.1	4	8 51 35.22	6.514	18 48 24.4	25.75	0 0.5		
5	7 30 43.17	6.958	23 53 1.5	14.43	0 37.9	5	8 54 11.38	6.499	18 38 2.4	26.07	23 57.9		
6	7 33 30.01	+6.945	+22 47 9.9	-14.86	0 36.8	6	8 56 47.18	+6.484	+18 27 32.9	-26.38	23 56.6		
7	7 36 16.52	6.931	22 41 8.0	15.29	0 35.6	7	8 59 22.61	6.469	18 16 56.0	26.69	23 55.2		
8	7 39 2.70	6.917	22 34 55.8	15.71	0 34.4	8	9 1 57.68	6.454	18 6 11.9	26.99	23 53.8		
9	7 41 48.55	6.903	22 28 33.5	16.13	0 33.2	9	9 4 32.38	6.439	17 55 20.5	27.29	23 52.5		
10	7 44 34.05	6.889	22 22 1.0	16.55	0 32.0	10	9 7 6.72	6.424	17 44 22.1	27.58	23 51.1		
11	7 47 19.21	+6.875	+22 15 18.6	-16.97	0 30.8	11	9 9 40.71	+6.409	+17 33 16.6	-27.87	23 49.7		
12	7 50 4.02	6.860	22 8 26.3	17.39	0 29.6	12	9 12 14.34	6.394	17 22 4.3	28.15	23 48.3		
13	7 52 48.48	6.845	22 1 24.2	17.79	0 28.4	13	9 14 47.62	6.379	17 10 45.1	28.43	23 46.9		
14	7 55 32.58	6.830	21 54 12.4	18.19	0 27.2	14	9 17 20.54	6.364	16 59 19.3	28.71	23 45.5		
15	7 58 16.32	6.815	21 46 50.9	18.59	0 26.0	15	9 19 53.11	6.350	16 47 47.0	28.98	23 44.1		
16	8 0 59.70	+6.800	+21 39 20.0	-18.99	0 24.8	16	9 22 25.34	+6.335	+16 36 8.2	-29.25	23 42.7		
17	8 3 42.72	6.785	21 31 39.5	19.38	0 23.6	17	9 24 57.22	6.321	16 24 23.0	29.51	23 41.3		
18	8 6 25.38	6.770	21 23 49.8	19.77	0 22.4	18	9 27 28.76	6.307	16 12 31.5	29.77	23 39.8		
19	8 9 7.67	6.755	21 15 50.8	20.15	0 21.1	19	9 29 59.96	6.293	16 0 33.8	30.03	23 38.4		
20	8 11 49.60	6.740	21 7 42.6	20.53	0 19.9	20	9 32 30.84	6.280	15 48 30.0	30.28	23 36.9		
21	8 14 31.16	+6.724	+20 59 25.4	-20.90	0 18.6	21	9 35 1.40	+6.267	+15 36 20.2	-30.53	23 35.5		
22	8 17 12.36	6.709	20 50 59.2	21.27	0 17.4	22	9 37 31.64	6.253	15 24 4.5	30.77	23 34.0		
23	8 19 53.20	6.694	20 42 24.1	21.64	0 16.1	23	9 40 1.57	6.240	15 11 43.0	31.01	23 32.6		
24	8 22 33.68	6.679	20 33 40.3	22.00	0 14.9	24	9 42 31.18	6.227	14 59 15.7	31.25	23 31.1		
25	8 25 13.80	6.664	20 24 47.7	22.36	0 13.6	25	9 45 0.49	6.214	14 46 42.8	31.49	23 29.7		
26	8 27 53.56	+6.649	+20 15 46.6	-22.72	0 12.3	26	9 47 29.49	+6.202	+14 34 4.4	-31.72	23 28.2		
27	8 30 32.96	6.634	20 6 36.9	23.07	0 11.0	27	9 49 58.20	6.190	14 21 20.5	31.94	23 26.8		
28	8 33 12.00	6.619	19 57 18.7	23.42	0 9.7	28	9 52 26.61	6.178	14 8 31.3	32.16	23 25.3		
29	8 35 50.68	6.604	19 47 52.2	23.77	0 8.4	29	9 54 54.74	6.166	13 55 36.8	32.38	23 23.9		
30	8 38 29.00	6.589	19 38 17.5	24.11	0 7.1	30	9 57 22.57	6.154	13 42 37.1	32.59	23 22.4		
31	8 41 6.96	+6.574	+19 28 34.8	-24.45	0 5.8	31	9 59 50.12	+6.142	+13 29 32.4	-32.80	23 20.9		
32	8 43 44.56	+6.559	+19 18 44.0	-24.78	0 4.5	32	10 2 17.39	+6.130	+13 16 22.8	-33.00	23 19.4		
Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter . .	1.9	1.9	1.9	1.9	1.9	1.9	Semidiameter . .	1.9	1.9	1.9	1.9	1.9	1.9
Hor. Parallax . .	3.4	3.4	3.3	3.3	3.3	3.3	Hor. Parallax . .	3.3	3.3	3.3	3.3	3.3	3.3

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.				
h m s	s	o ' "	"	h m		h m s	s	o ' "	"	h m			
1	10 2 17.39	+6.130	+13 16 22.8	-33.00	23 19.4	1	11 14 5.62	+5.871	+6 11 27.9	-37.94	22 32.9		
2	10 4 44.38	6.119	13 3 8.3	33.20	23 17.9	2	11 16 26.47	5.866	5 56 33.2	37.33	22 31.3		
3	10 7 11.10	6.107	12 49 49.1	33.40	23 16.4	3	11 18 47.20	5.861	5 41 36.6	37.41	22 29.7		
4	10 9 37.55	6.096	12 36 25.2	33.59	23 14.9	4	11 21 7.81	5.856	5 26 38.2	37.49	22 28.1		
5	10 12 3.72	6.085	12 22 56.8	33.78	23 13.4	5	11 23 28.30	5.852	5 11 38.1	37.56	22 26.5		
6	10 14 29.62	+6.074	+12 9 24.0	-33.96	23 11.9	6	11 25 48.68	+5.847	+4 56 36.5	-37.62	22 24.9		
7	10 16 55.26	6.063	11 55 46.9	34.14	23 10.3	7	11 28 8.95	5.842	4 41 33.4	37.67	22 23.3		
8	10 19 20.64	6.052	11 42 5.6	34.31	23 8.8	8	11 30 29.12	5.838	4 26 28.9	37.72	22 21.7		
9	10 21 45.77	6.041	11 28 20.2	34.48	23 7.3	9	11 32 49.20	5.834	4 11 23.1	37.76	22 20.1		
10	10 24 10.65	6.031	11 14 30.8	34.64	23 5.8	10	11 35 9.18	5.831	3 56 16.2	37.81	22 18.5		
11	10 26 35.28	+6.021	+11 0 37.5	-34.80	23 4.2	11	11 37 29.08	+5.826	+3 41 8.2	-37.85	22 16.9		
12	10 28 59.67	6.011	10 46 40.4	34.96	23 2.7	12	11 39 48.90	5.825	3 25 59.2	37.89	22 15.2		
13	10 31 23.82	6.001	10 32 39.5	35.11	23 1.1	13	11 42 8.66	5.822	3 10 49.2	37.93	22 13.6		
14	10 33 47.75	5.992	10 18 35.0	35.26	22 59.6	14	11 44 28.35	5.819	2 55 38.3	37.97	22 12.0		
15	10 36 11.45	5.983	10 4 26.9	35.41	22 58.0	15	11 46 47.98	5.817	2 40 26.7	38.00	22 10.4		
16	10 38 34.94	+5.974	+ 9 50 15.4	-35.55	22 56.5	16	11 49 7.56	+5.815	+2 25 14.5	-38.02	22 8.8		
17	10 40 58.22	5.966	9 36 0.6	35.69	22 54.9	17	11 51 27.10	5.813	2 10 1.6	38.04	22 7.2		
18	10 43 21.29	5.958	9 21 42.5	35.82	22 53.3	18	11 53 46.60	5.812	1 54 48.3	38.06	22 5.6		
19	10 45 44.17	5.950	9 7 21.1	35.95	22 51.8	19	11 56 6.07	5.811	1 39 34.5	38.08	22 4.0		
20	10 48 6.86	5.942	8 52 56.7	36.08	22 50.2	20	11 58 25.52	5.810	1 24 20.3	38.10	22 2.4		
21	10 50 29.37	+5.934	+ 8 38 29.2	-36.20	22 48.7	21	12 0 44.96	+5.810	+1 9 5.9	-38.11	22 0.7		
22	10 52 51.70	5.927	8 23 58.8	36.32	22 47.1	22	12 3 4.40	5.810	0 53 51.2	38.12	21 59.1		
23	10 55 13.86	5.920	8 9 25.6	36.44	22 45.6	23	12 5 23.82	5.810	0 38 36.5	38.12	21 57.5		
24	10 57 35.85	5.913	7 54 49.6	36.56	22 44.0	24	12 7 43.25	5.810	0 23 21.7	38.11	21 55.9		
25	10 59 57.69	5.906	7 40 10.9	36.67	22 42.4	25	12 10 2.69	5.811	+0 8 7.0	38.10	21 54.2		
26	11 2 19.37	+5.900	+ 7 25 29.6	-36.77	22 40.8	26	12 12 22.14	+5.811	-0 7 7.5	-38.09	21 52.6		
27	11 4 40.90	5.894	7 10 45.8	36.87	22 39.2	27	12 14 41.61	5.812	0 22 21.7	38.08	21 51.0		
28	11 7 2.29	5.888	6 55 59.7	36.97	22 37.7	28	12 17 1.09	5.812	0 37 35.5	38.06	21 49.4		
29	11 9 23.54	5.882	6 41 11.2	37.06	22 36.1	29	12 19 20.60	5.813	0 52 48.9	38.04	21 47.8		
30	11 11 44.65	5.876	6 26 20.6	37.15	22 34.5	30	12 21 40.14	5.814	1 8 1.7	38.01	21 46.1		
31	11 14 5.62	+5.871	+ 6 11 27.9	-37.24	22 32.9	31	12 23 59.71	+5.816	-1 23 13.8	-37.98	21 44.5		
32	11 16 26.47	+5.866	+ 5 56 33.2	-37.33	22 31.3	32	12 26 19.32	+5.818	-1 38 25.1	-37.95	21 42.9		
Day of the Month.	3d.	8th.	13th.	18th.	23d.	28th.	Day of the Month.	3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter . .	1.9	1.9	1.9	1.9	2.0	2.0	Semidiameter . .	2.0	2.0	2.0	2.0	2.1	2.1
Hor. Parallax . .	3.3	3.4	3.4	3.4	3.4	3.4	Hor. Parallax . .	3.5	3.5	3.5	3.6	3.6	3.6

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	12 26 19.32	+5.818	-1 38 25.1	-37.95	21 42.9	1	13 36 49.45	+5.963	-9 0 16.1	-35.12	20 55.2			
2	12 28 38.97	5.890	1 53 35.6	37.91	21 41.3	2	13 39 12.67	5.970	9 14 17.1	34.96	20 53.7			
3	12 30 58.67	5.892	2 8 45.1	37.87	21 39.7	3	13 41 36.06	5.978	9 28 14.4	34.80	20 52.1			
4	12 33 18.41	5.894	2 23 53.4	37.82	21 38.1	4	13 43 59.63	5.986	9 42 7.7	34.63	20 50.6			
5	12 35 38.20	5.896	2 39 0.5	37.77	21 36.5	5	13 46 23.39	5.994	9 55 57.0	34.46	20 49.0			
6	12 37 58.05	+5.898	-2 54 6.4	-37.71	21 34.9	6	13 48 47.33	+6.002	-10 9 42.1	-34.29	20 47.5			
7	12 40 17.97	5.831	3 9 10.9	37.65	21 33.2	7	13 51 11.46	6.010	10 23 23.1	34.12	20 45.9			
8	12 42 37.95	5.834	3 24 13.8	37.59	21 31.6	8	13 53 35.79	6.018	10 36 59.8	33.94	20 44.4			
9	12 44 58.00	5.837	3 39 15.2	37.52	21 30.0	9	13 56 0.32	6.026	10 50 32.1	33.75	20 42.9			
10	12 47 18.13	5.841	3 54 15.0	37.45	21 28.4	10	13 58 25.04	6.035	11 3 59.9	33.56	20 41.4			
11	12 49 38.35	+5.845	-4 9 13.0	-37.38	21 26.8	11	14 0 49.98	+6.043	-11 17 23.2	-33.37	20 39.9			
12	12 51 58.66	5.849	4 24 9.2	37.30	21 25.2	12	14 3 15.13	6.052	11 30 41.9	33.18	20 38.3			
13	12 54 19.07	5.853	4 39 3.5	37.22	21 23.6	13	14 5 40.49	6.061	11 43 55.9	32.98	20 36.8			
14	12 56 39.58	5.857	4 53 55.8	37.13	21 22.0	14	14 8 6.07	6.070	11 57 5.1	32.78	20 35.3			
15	12 59 0.20	5.862	5 8 46.0	37.04	21 20.4	15	14 10 31.88	6.080	12 10 9.4	32.57	20 33.8			
16	13 1 20.94	+5.867	-5 23 34.0	-36.95	21 18.8	16	14 12 57.92	+6.090	-12 23 8.8	-32.36	20 32.3			
17	13 3 41.80	5.872	5 38 19.8	36.86	21 17.2	17	14 15 24.19	6.099	12 36 3.2	32.15	20 30.8			
18	13 6 2.80	5.877	5 53 3.3	36.76	21 15.6	18	14 17 50.69	6.109	12 48 52.5	31.94	20 29.3			
19	13 8 23.93	5.883	6 7 44.5	36.66	21 14.0	19	14 20 17.43	6.119	13 1 36.6	31.72	20 27.8			
20	13 10 45.20	5.889	6 22 23.1	36.55	21 12.4	20	14 22 44.41	6.129	13 14 15.3	31.50	20 26.3			
21	13 13 6.61	+5.895	-6 36 59.2	-36.44	21 10.9	21	14 25 11.64	+6.139	-13 26 48.7	-31.27	20 24.8			
22	13 15 28.17	5.901	6 51 32.6	36.33	21 9.3	22	14 27 39.11	6.150	13 39 16.6	31.04	20 23.3			
23	13 17 49.88	5.907	7 6 3.2	36.22	21 7.7	23	14 30 6.82	6.160	13 51 39.0	30.81	20 21.9			
24	13 20 11.75	5.914	7 20 30.9	36.10	21 6.1	24	14 32 34.77	6.170	14 3 55.6	30.57	20 20.4			
25	13 22 33.78	5.921	7 34 55.7	35.97	21 4.5	25	14 35 2.96	6.180	14 16 6.5	30.33	20 19.0			
26	13 24 55.97	+5.928	-7 49 17.4	-35.84	21 3.0	26	14 37 31.39	+6.190	-14 28 11.4	-30.08	20 17.5			
27	13 27 18.33	5.935	8 3 35.9	35.71	21 1.4	27	14 40 0.07	6.200	14 40 10.4	29.83	20 16.0			
28	13 29 40.85	5.942	8 17 51.1	35.57	20 59.9	28	14 42 28.98	6.210	14 52 3.3	29.57	20 14.6			
29	13 32 3.54	5.949	8 32 3.0	35.42	20 58.3	29	14 44 58.14	6.220	15 3 50.0	29.31	20 13.1			
30	13 34 26.41	5.956	8 46 11.3	35.27	20 56.8	30	14 47 27.52	6.230	15 15 30.4	29.05	20 11.7			
31	13 36 49.45	+5.963	-9 0 16.1	-35.12	20 55.2	31	14 49 57.14	+6.239	-15 27 4.4	-28.78	20 10.2			
32	13 39 12.67	+5.970	-9 14 17.1	-34.96	20 53.7	32	14 52 27.00	+6.249	-15 38 31.9	-28.51	20 8.8			
Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	32d.
Semidiameter . . .	2.1	2.1	2.1	2.2	2.2	2.2	Semidiameter . .	2.3	2.3	2.3	2.4	2.4	2.5	2.5
Hor. Parallax . . .	3.7	3.7	3.8	3.8	3.9	3.9	Hor. Parallax . .	4.0	4.1	4.1	4.2	4.3	4.4	4.5

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	21 9 10.98	+2.190	-17 10 55.7	+9.58	2 25.5	1	21 37 31.14	+2.340	-14 59 29.1	+11.46	0 51.8
2	21 10 3.66	2.199	17 7 5.0	9.65	2 22.4	2	21 38 27.32	2.341	14 54 53.7	11.51	0 48.8
3	21 10 56.54	2.208	17 3 12.4	9.73	2 19.4	3	21 39 23.52	2.342	14 50 17.1	11.55	0 45.8
4	21 11 49.62	2.216	16 59 18.1	9.80	2 16.3	4	21 40 19.74	2.343	14 45 39.5	11.59	0 42.8
5	21 12 42.90	2.224	16 55 22.0	9.87	2 13.3	5	21 41 15.98	2.343	14 41 1.0	11.63	0 39.8
6	21 13 36.36	+2.232	-16 51 24.2	+9.95	2 10.2	6	21 42 12.22	+2.344	-14 36 21.5	+11.67	0 36.8
7	21 14 30.01	2.239	16 47 24.6	10.02	2 7.2	7	21 43 8.47	2.344	14 31 41.1	11.70	0 33.8
8	21 15 23.83	2.246	16 43 23.3	10.09	2 4.1	8	21 44 4.72	2.343	14 26 59.8	11.74	0 30.8
9	21 16 17.62	2.253	16 39 20.4	10.16	2 1.1	9	21 45 0.96	2.343	14 22 17.7	11.78	0 27.8
10	21 17 11.98	2.260	16 35 15.8	10.23	1 58.1	10	21 45 57.19	2.342	14 17 34.8	11.81	0 24.8
11	21 18 6.29	+2.266	-16 31 9.6	+10.30	1 55.0	11	21 46 53.39	+2.341	-14 12 51.0	+11.84	0 21.8
12	21 19 0.74	2.272	16 27 1.8	10.36	1 52.0	12	21 47 49.57	2.340	14 8 6.6	11.87	0 18.8
13	21 19 55.33	2.278	16 22 52.4	10.43	1 49.0	13	21 48 45.72	2.339	14 3 21.4	11.90	0 15.8
14	21 20 50.05	2.283	16 18 41.5	10.49	1 46.0	14	21 49 41.83	2.337	13 58 35.5	11.93	0 12.8
15	21 21 44.91	2.288	16 14 29.0	10.55	1 42.9	15	21 50 37.90	2.335	13 53 49.0	11.96	0 9.8
16	21 22 39.88	+2.293	-16 10 15.0	+10.61	1 39.9	16	21 51 33.93	+2.333	-13 49 1.8	+11.98	0 6.8
17	21 23 34.97	2.298	16 5 59.6	10.67	1 36.9	17	21 52 29.90	2.331	13 44 14.1	12.00	0 3.8
18	21 24 30.17	2.302	16 1 42.7	10.73	1 33.9	18	21 53 25.82	2.329	13 39 25.9	12.03	0 0.8
19	21 25 25.46	2.306	15 57 24.4	10.79	1 30.8	19	21 54 21.67	2.326	13 34 37.1	12.04	23 54.8
20	21 26 20.86	2.310	15 53 4.7	10.85	1 27.8	20	21 55 17.46	2.323	13 29 47.9	12.06	23 51.8
21	21 27 16.34	+2.314	-15 48 43.7	+10.91	1 24.8	21	21 56 13.18	+2.320	-13 24 58.3	+12.08	23 48.7
22	21 28 11.91	2.317	15 44 21.3	10.97	1 21.8	22	21 57 8.83	2.317	13 20 8.2	12.09	23 45.7
23	21 29 7.56	2.320	15 39 57.6	11.02	1 18.8	23	21 58 4.40	2.314	13 15 17.7	12.11	23 42.7
24	21 30 3.28	2.323	15 35 32.6	11.07	1 15.8	24	21 58 59.89	2.311	13 10 26.9	12.13	23 39.7
25	21 30 59.07	2.326	15 31 6.4	11.12	1 12.8	25	21 59 55.29	2.307	13 5 35.7	12.14	23 36.7
26	21 31 54.92	+2.329	-15 26 38.8	+11.17	1 9.8	26	22 0 50.61	+2.303	-13 0 44.2	+12.15	23 33.7
27	21 32 50.84	2.331	15 22 10.1	11.22	1 6.8	27	22 1 45.83	2.299	12 55 52.5	12.16	23 30.7
28	21 33 46.81	2.333	15 17 40.2	11.27	1 3.8	28	22 2 40.96	2.295	12 51 0.5	12.17	23 27.6
29	21 34 42.83	2.335	15 13 9.1	11.32	1 0.8	29	22 3 35.98	2.291	12 46 8.4	12.18	23 24.6
30	21 35 38.89	2.337	15 8 36.9	11.37	0 57.8	30	22 4 30.90	2.286	12 41 16.1	12.18	23 21.6
31	21 36 35.00	+2.339	-15 4 3.6	+11.42	0 54.8	31	22 5 25.71	+2.281	-12 36 23.6	+12.19	23 18.6
32	21 37 31.14	+2.340	-14 59 29.1	+11.46	0 51.8	32	22 6 20.40	+2.276	-12 31 31.0	+12.19	23 15.6
Day of the Month.						Day of the Month.					
	1st.	9th.	17th.	25th.			2d.	10th.	18th.	26th.	
Polar Semidiameter . .	16".2	16".0	15".8	15".7	Polar Semidiameter . .	15".7	15".7	15".7	15".7	15".7	
Horizontal Parallax . .	1.5	1.5	1.5	1.5	Horizontal Parallax . .	1.5	1.5	1.5	1.5	1.5	

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
1	22 3 35.98	+2.991	-12 46 8.4	+12.18	23 24.6	1	22 30 44.98	+2.059	-10 16 56.5	+11.63	21 49.7
2	22 4 30.90	2.986	12 41 16.1	12.18	23 21.6	2	22 31 34.26	2.046	10 12 17.8	11.59	21 46.6
3	22 5 25.71	2.981	12 36 23.6	12.19	23 18.6	3	22 32 23.28	2.037	10 7 40.1	11.55	21 43.5
4	22 6 20.40	2.976	12 31 31.0	12.19	23 15.6	4	22 33 12.05	2.026	10 3 3.5	11.50	21 40.4
5	22 7 14.97	2.971	12 26 38.4	12.19	23 12.5	5	22 34 0.56	2.015	9 58 28.1	11.45	21 37.3
6	22 8 9.42	+2.966	-12 21 45.7	+12.19	23 9.5	6	22 34 48.79	+2.004	- 9 53 53.8	+11.40	21 34.1
7	22 9 3.73	2.961	12 16 53.1	12.18	23 6.5	7	22 35 36.73	1.993	9 49 20.8	11.35	21 31.0
8	22 9 57.91	2.955	12 12 0.6	12.18	23 3.4	8	22 36 24.43	1.981	9 44 49.1	11.29	21 27.8
9	22 10 51.95	2.949	12 7 8.1	12.18	23 0.4	9	22 37 11.83	1.969	9 40 18.6	11.24	21 24.7
10	22 11 45.84	2.943	12 2 15.7	12.17	22 57.4	10	22 37 58.93	1.957	9 35 49.5	11.18	21 21.5
11	22 12 39.58	+2.936	-11 57 23.5	+12.17	22 54.3	11	22 38 45.74	+1.944	- 9 31 21.9	+11.12	21 18.4
12	22 13 33.17	2.929	11 52 31.5	12.16	22 51.3	12	22 39 32.24	1.931	9 26 55.7	11.06	21 15.2
13	22 14 26.59	2.922	11 47 39.8	12.15	22 48.2	13	22 40 18.44	1.918	9 22 31.0	11.00	21 12.0
14	22 15 19.85	2.915	11 42 48.4	12.14	22 45.2	14	22 41 4.33	1.905	9 18 7.8	10.93	21 8.8
15	22 16 12.93	2.908	11 37 57.3	12.12	22 42.1	15	22 41 49.90	1.892	9 13 46.2	10.87	21 5.6
16	22 17 5.83	+2.901	-11 33 6.6	+12.11	22 39.1	16	22 42 35.15	+1.879	- 9 9 26.3	+10.80	21 2.4
17	22 17 58.56	2.193	11 28 16.3	12.09	22 36.0	17	22 43 20.07	1.865	9 5 8.0	10.73	20 59.2
18	22 18 51.10	2.185	11 23 26.4	12.07	22 33.0	18	22 44 4.67	1.851	9 0 51.4	10.66	20 56.0
19	22 19 43.45	2.177	11 18 37.1	12.05	22 29.9	19	22 44 48.93	1.837	8 56 36.6	10.59	20 52.8
20	22 20 35.61	2.169	11 13 48.3	12.03	22 26.8	20	22 45 32.85	1.823	8 52 23.5	10.51	20 49.6
21	22 21 27.57	+2.161	-11 9 0.0	+12.00	22 23.7	21	22 46 16.43	+1.809	- 8 48 12.3	+10.43	20 46.4
22	22 22 19.32	2.153	11 4 12.4	11.98	22 20.7	22	22 46 59.67	1.794	8 44 2.9	10.35	20 43.2
23	22 23 10.87	2.144	10 59 25.4	11.95	22 17.6	23	22 47 42.55	1.779	8 39 55.4	10.27	20 40.0
24	22 24 2.22	2.135	10 54 39.0	11.92	22 14.5	24	22 48 25.08	1.764	8 35 49.8	10.19	20 36.7
25	22 24 53.35	2.126	10 49 53.4	11.89	22 11.4	25	22 49 7.25	1.749	8 31 46.2	10.11	20 33.5
26	22 25 44.26	+2.117	-10 45 8.4	+11.86	22 8.3	26	22 49 49.05	+1.734	- 8 27 44.7	+10.02	20 30.2
27	22 26 34.96	2.108	10 40 24.3	11.82	22 5.2	27	22 50 30.49	1.719	8 23 45.2	9.94	20 27.0
28	22 27 25.43	2.099	10 35 41.0	11.79	22 2.1	28	22 51 11.55	1.703	8 19 47.8	9.85	20 23.7
29	22 28 15.67	2.089	10 30 58.5	11.75	21 59.0	29	22 51 52.23	1.687	8 15 52.5	9.76	20 20.5
30	22 29 5.68	2.079	10 26 16.9	11.71	21 55.9	30	22 52 32.52	1.671	8 11 59.4	9.67	20 17.2
31	22 29 55.45	+2.069	-10 21 36.2	+11.67	21 52.8	31	22 53 12.42	+1.654	- 8 8 8.7	+ 9.57	20 14.0
32	22 30 44.98	+2.059	-10 16 56.5	+11.63	21 49.7	32	22 53 51.92	+1.637	- 8 4 20.1	+ 9.47	20 10.7
Day of the Month.						Day of the Month.					
6th.						7th.					
14th.						15th.					
22d.						23d.					
30th.											
Polar Semidiameter . .						Polar Semidiameter					
Horizontal Parallax . .						Horizontal Parallax					

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The — sign indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.											
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.						
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.							
1	22 53 12.42	+1.654	-8 8 8.7	+9.57	20 14.0	1	23 10 2.81	+1.025	-6 31 35.6	+5.72	18 28.6						
2	22 53 51.92	1.637	8 4 20.1	9.47	20 10.7	2	23 10 27.12	1.001	6 29 20.3	5.57	18 25.1						
3	22 54 31.02	1.620	8 0 33.9	9.37	20 7.4	3	23 10 50.84	0.977	6 27 8.6	5.41	18 21.5						
4	22 55 9.70	1.603	7 56 50.1	9.27	20 4.1	4	23 11 13.98	0.952	6 25 0.7	5.25	18 18.0						
5	22 55 47.97	1.586	7 53 8.7	9.17	20 0.8	5	23 11 36.52	0.927	6 22 56.6	5.09	18 14.4						
6	22 56 25.81	+1.568	-7 49 29.8	+9.07	19 57.5	6	23 11 59.45	+0.902	-6 20 56.4	+4.93	18 10.8						
7	22 57 3.23	1.550	7 45 53.4	8.96	19 54.2	7	23 12 19.77	0.876	6 19 0.0	4.77	18 7.2						
8	22 57 40.20	1.532	7 42 19.6	8.85	19 50.8	8	23 12 40.48	0.850	6 17 7.6	4.61	18 3.6						
9	22 58 16.74	1.513	7 38 48.4	8.74	19 47.5	9	23 13 0.58	0.824	6 15 19.1	4.44	18 0.0						
10	22 58 52.83	1.494	7 35 19.9	8.63	19 44.1	10	23 13 20.05	0.798	6 13 34.6	4.27	17 56.4						
11	22 59 28.46	+1.475	-7 31 54.1	+8.52	19 40.8	11	23 13 38.88	+0.772	-6 11 54.2	+4.10	17 52.8						
12	23 0 3.64	1.456	7 28 31.1	8.40	19 37.4	12	23 13 57.09	0.746	6 10 17.8	3.93	17 49.1						
13	23 0 38.35	1.437	7 25 11.0	8.28	19 34.1	13	23 14 14.66	0.719	6 8 45.5	3.76	17 45.5						
14	23 1 12.59	1.417	7 21 53.7	8.16	19 30.7	14	23 14 31.58	0.692	6 7 17.3	3.59	17 41.8						
15	23 1 46.36	1.397	7 18 39.2	8.04	19 27.3	15	23 14 47.86	0.665	6 5 53.2	3.42	17 38.2						
16	23 2 19.65	+1.377	-7 15 27.7	+7.92	19 23.9	16	23 15 3.49	+0.638	-6 4 33.3	+3.24	17 34.5						
17	23 2 52.45	1.357	7 12 19.2	7.79	19 20.5	17	23 15 18.46	0.611	6 3 17.6	3.07	17 30.8						
18	23 3 24.77	1.337	7 9 13.7	7.67	19 17.1	18	23 15 32.77	0.583	6 2 6.2	2.89	17 27.1						
19	23 3 56.59	1.316	7 6 11.2	7.54	19 13.7	19	23 15 46.43	0.555	6 0 58.9	2.71	17 23.4						
20	23 4 27.91	1.296	7 3 11.9	7.41	19 10.3	20	23 15 59.41	0.527	5 59 56.0	2.53	17 19.6						
21	23 4 58.72	+1.274	-7 0 15.7	+7.28	19 6.9	21	23 16 11.73	+0.499	-5 58 57.4	+2.35	17 15.9						
22	23 5 29.03	1.252	6 57 22.6	7.15	19 3.5	22	23 16 23.37	0.471	5 58 3.1	2.17	17 12.2						
23	23 5 58.82	1.230	6 54 32.8	7.01	19 0.1	23	23 16 34.33	0.443	5 57 13.1	1.99	17 8.4						
24	23 6 28.09	1.208	6 51 46.2	6.87	18 56.6	24	23 16 44.61	0.414	5 56 27.4	1.81	17 4.6						
25	23 6 56.84	1.186	6 49 2.9	6.73	18 53.2	25	23 16 54.19	0.385	5 55 46.3	1.62	17 0.9						
26	23 7 25.05	+1.164	-6 46 22.9	+6.59	18 49.7	26	23 17 3.09	+0.356	-5 55 9.5	+1.44	16 57.1						
27	23 7 52.73	1.142	6 43 46.3	6.45	18 46.2	27	23 17 11.28	0.327	5 54 37.2	1.26	16 53.2						
28	23 8 19.86	1.119	6 41 13.1	6.31	18 42.7	28	23 17 18.78	0.298	5 54 9.3	1.07	16 49.4						
29	23 8 46.44	1.096	6 38 43.4	6.16	18 39.2	29	23 17 25.57	0.269	5 53 45.9	0.88	16 45.6						
30	23 9 12.46	1.073	6 36 17.2	6.02	18 35.7	30	23 17 31.65	0.239	5 53 27.1	0.69	16 41.8						
31	23 9 37.92	+1.049	-6 33 54.6	+5.87	18 32.2	31	23 17 37.01	+0.209	-5 53 12.8	+0.50	19 37.9						
32	23 10 2.81	+1.025	-6 31 35.6	+5.72	18 28.6	32	23 17 41.66	+0.179	-5 53 3.1	+0.31	16 34.1						
Day of the Month.					1st.	9th.	17th.	25th.	Day of the Month.					2d.	10th.	18th.	26th.
Polar Semidiameter . .					17.3	17.6	18.0	18.5	Polar Semidiameter . .					18.9	19.4	19.9	20.4
Horizontal Parallax . .					1.6	1.7	1.7	1.7	Horizontal Parallax . .					1.8	1.8	1.9	1.9

NOTE.—The sign + indicates north declinations: the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	23 17 37.01	+0.309	-5 53 12.8	+0.50	16 37.9	1	23 14 28.63	-0.607	-6 22 54.1	-5.11	14 32.7
2	23 17 41.66	0.179	5 53 3.1	0.31	16 34.1	2	23 14 11.58	0.723	6 24 54.7	5.37	14 28.5
3	23 17 45.60	0.149	5 52 58.0	+0.19	16 30.2	3	23 13 53.90	0.749	6 27 6.8	5.42	14 24.2
4	23 17 48.81	0.119	5 52 57.4	-0.08	16 26.3	4	23 13 35.62	0.774	6 29 18.6	5.57	14 20.0
5	23 17 51.29	0.089	5 53 1.4	0.37	16 22.4	5	23 13 16.74	0.799	6 31 33.9	5.71	14 15.8
6	23 17 53.05	+0.059	-5 53 10.0	-0.46	16 18.5	6	23 12 57.27	-0.823	-6 33 52.6	-5.86	14 11.5
7	23 17 54.09	+0.028	5 53 23.2	0.65	16 14.6	7	23 12 37.22	0.847	6 36 14.6	5.98	14 7.2
8	23 17 54.39	-0.002	5 53 41.0	0.84	16 10.6	8	23 12 16.61	0.870	6 38 39.8	6.11	14 2.9
9	23 17 53.97	0.033	5 54 3.5	1.03	16 6.7	9	23 11 55.46	0.893	6 41 8.1	6.24	13 58.7
10	23 17 52.82	0.063	5 54 20.5	1.22	16 2.7	10	23 11 33.76	0.915	6 43 39.4	6.36	13 54.4
11	23 17 50.95	-0.093	-5 55 2.0	-1.41	15 58.8	11	23 11 11.55	-0.936	-6 46 13.7	-6.48	13 50.0
12	23 17 48.36	0.123	5 55 38.1	1.60	15 54.8	12	23 10 48.84	0.957	6 48 50.7	6.60	13 45.8
13	23 17 45.04	0.153	5 56 18.8	1.79	15 50.8	13	23 10 25.64	0.977	6 51 30.4	6.71	13 41.4
14	23 17 41.00	0.183	5 57 4.0	1.98	15 46.8	14	23 10 1.96	0.996	6 54 12.7	6.81	13 37.1
15	23 17 36.25	0.213	5 57 53.6	2.17	15 42.7	15	23 9 37.82	1.015	6 56 57.4	6.91	13 32.8
16	23 17 30.78	-0.243	-5 58 47.7	-2.35	15 38.7	16	23 9 13.25	-1.033	-6 59 44.5	-7.00	13 28.4
17	23 17 24.59	0.273	5 59 46.3	2.54	15 34.7	17	23 8 48.25	1.050	7 2 33.8	7.09	13 24.1
18	23 17 17.70	0.302	6 0 49.2	2.72	15 30.6	18	23 8 22.83	1.067	7 5 25.2	7.18	13 19.7
19	23 17 10.09	0.331	6 1 56.6	2.90	15 26.6	19	23 7 57.02	1.083	7 8 18.6	7.26	13 15.3
20	23 17 1.79	0.361	6 3 8.3	3.08	15 22.5	20	23 7 30.84	1.098	7 11 13.9	7.34	13 11.0
21	23 16 52.78	-0.390	-6 4 24.2	-3.26	15 18.4	21	23 7 4.30	-1.113	-7 14 10.9	-7.41	13 6.6
22	23 16 43.08	0.419	6 5 44.5	3.43	15 14.3	22	23 6 37.42	1.127	7 17 9.6	7.47	13 2.2
23	23 16 32.68	0.448	6 7 9.0	3.61	15 10.2	23	23 6 10.21	1.140	7 20 9.8	7.53	12 57.8
24	23 16 21.59	0.477	6 8 37.8	3.79	15 6.1	24	23 5 42.69	1.153	7 23 11.4	7.59	12 53.4
25	23 16 9.81	0.505	6 10 10.7	3.96	15 1.9	25	23 5 14.90	1.164	7 26 14.2	7.64	12 49.0
26	23 15 57.35	-0.533	-6 11 47.8	-4.13	14 57.8	26	23 4 46.83	-1.175	-7 29 18.2	-7.69	12 44.6
27	23 15 44.21	0.561	6 13 28.9	4.30	14 53.6	27	23 4 18.51	1.185	7 32 23.2	7.73	12 40.2
28	23 15 30.41	0.589	6 15 14.1	4.47	14 49.5	28	23 3 49.97	1.194	7 35 29.1	7.76	12 35.8
29	23 15 15.94	0.616	6 17 3.3	4.63	14 45.3	29	23 3 21.23	1.202	7 38 35.7	7.79	12 31.4
30	23 15 0.82	0.643	6 18 56.4	4.79	14 41.1	30	23 2 52.29	1.209	7 41 42.9	7.81	12 27.0
31	23 14 45.05	-0.670	-6 20 53.3	-4.95	14 36.9	31	23 2 23.19	-1.215	-7 44 50.5	-7.82	12 22.6
32	23 14 28.63	-0.697	-6 22 54.1	-5.11	14 32.7	32	23 1 53.95	-1.220	-7 47 58.4	-7.83	12 18.2
Day of the Month.	4th.	12th.	20th.	28th.		Day of the Month.	5th.	13th.	21st.	29th.	
Polar Semidiameter . .	21.0	21.5	22.0	22.5		Polar Semidiameter . .	22.9	23.2	23.5	23.7	
Horizontal Parallax . .	2.0	2.0	2.1	2.1		Horizontal Parallax . .	2.1	2.2	2.2	2.2	

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"			h m s	s	° ' "	"	
1	23 1 53.95	-1.220	-7 47 58.4	-7.83	12 18.2	1	22 48 2.81	-0.957	-9 12 44.6	-5.53	10 6.5
2	23 1 24.60	1.225	7 51 6.5	7.84	12 13.7	2	22 47 40.08	0.936	9 14 55.4	5.38	10 2.2
3	23 0 55.15	1.229	7 54 14.6	7.84	12 9.3	3	22 47 17.88	0.914	9 17 2.6	5.33	9 57.9
4	23 0 25.62	1.232	7 57 22.6	7.83	12 4.9	4	22 46 56.23	0.891	9 19 6.2	5.07	9 53.6
5	22 59 56.05	1.233	8 0 30.3	7.81	12 0.5	5	22 46 35.13	0.867	9 21 5.9	4.91	9 49.3
6	22 59 26.46	-1.233	-8 3 37.5	-7.79	11 56.1	6	22 46 14.61	-0.843	-9 23 1.8	-4.75	9 45.1
7	22 58 56.86	1.232	8 6 44.1	7.76	11 51.6	7	22 45 54.67	0.818	9 24 53.7	4.58	9 40.8
8	22 58 27.29	1.232	8 9 50.0	7.73	11 47.2	8	22 45 35.33	0.793	9 26 41.6	4.41	9 36.5
9	22 57 57.76	1.229	8 12 55.0	7.69	11 42.8	9	22 45 16.62	0.767	9 28 25.4	4.24	9 32.3
10	22 57 28.30	1.225	8 15 59.0	7.64	11 38.4	10	22 44 58.53	0.741	9 30 5.1	4.07	9 28.1
11	22 56 58.94	-1.221	-8 19 1.8	-7.59	11 33.9	11	22 44 41.08	-0.714	-9 31 40.6	-3.89	9 23.9
12	22 56 29.68	1.216	8 22 3.3	7.53	11 29.5	12	22 44 24.27	0.687	9 33 11.8	3.71	9 19.7
13	22 56 0.56	1.210	8 25 3.4	7.47	11 25.1	13	22 44 8.13	0.659	9 34 38.7	3.53	9 15.5
14	22 55 31.60	1.203	8 28 2.0	7.40	11 20.7	14	22 43 52.66	0.631	9 36 1.3	3.35	9 11.3
15	22 55 2.82	1.195	8 30 58.8	7.33	11 16.3	15	22 43 37.86	0.602	9 37 19.6	3.17	9 7.1
16	22 54 34.23	-1.186	-8 33 53.8	-7.25	11 11.9	16	22 43 23.75	-0.573	-9 38 33.4	-2.99	9 3.0
17	22 54 5.86	1.177	8 36 46.9	7.17	11 7.5	17	22 43 10.33	0.544	9 39 42.9	2.80	8 58.8
18	22 53 37.73	1.167	8 39 38.0	7.08	11 3.1	18	22 42 57.61	0.515	9 40 47.8	2.62	8 54.7
19	22 53 9.86	1.156	8 42 26.9	6.99	10 58.7	19	22 42 45.60	0.485	9 41 48.3	2.43	8 50.6
20	22 52 42.27	1.143	8 45 13.5	6.89	10 54.3	20	22 42 34.31	0.455	9 42 44.3	2.24	8 46.4
21	22 52 14.98	-1.130	-8 47 57.7	-6.79	10 50.0	21	22 42 23.74	-0.425	-9 43 35.7	-2.05	8 42.3
22	22 51 48.01	1.116	8 50 39.4	6.68	10 45.6	22	22 42 13.89	0.395	9 44 22.5	1.86	8 38.3
23	22 51 21.38	1.102	8 53 18.5	6.57	10 41.2	23	22 42 4.78	0.364	9 45 4.8	1.66	8 34.2
24	22 50 55.10	1.087	8 55 54.9	6.45	10 36.8	24	22 41 56.41	0.333	9 45 42.4	1.47	8 20.1
25	22 50 29.20	1.071	8 58 28.4	6.33	10 32.5	25	22 41 48.78	0.302	9 46 15.4	1.28	8 26.1
26	22 50 3.70	-1.054	-9 0 59.1	-6.21	10 28.1	26	22 41 41.91	-0.271	-9 46 43.8	-1.08	8 22.0
27	22 49 38.61	1.036	9 3 26.7	6.08	10 23.8	27	22 41 35.79	0.239	9 47 7.5	0.89	8 18.0
28	22 49 13.96	1.017	9 5 51.1	5.95	10 19.4	28	22 41 30.42	0.207	9 47 26.6	0.70	8 14.0
29	22 48 49.76	0.998	9 8 12.3	5.81	10 15.1	29	22 41 25.83	0.175	9 47 40.9	0.50	8 10.0
30	22 48 26.04	0.978	9 10 30.2	5.67	10 10.8	30	22 41 22.01	0.143	9 47 50.5	0.31	8 6.0
31	22 48 2.81	-0.957	-9 12 44.6	-5.53	10 6.5	31	22 41 18.95	-0.111	-9 47 55.4	-0.11	8 2.0
32	22 47 40.08	-0.936	-9 14 55.4	-5.38	10 2.2	32	22 41 16.66	-0.079	-9 47 55.6	+0.09	7 58.0
Day of the Month.		6th.	14th.	22d.	30th.	Day of the Month.		8th.	16th.	24th.	
Polar Semidiameter . .		23.7	23.6	23.4	23.2	Polar Semidiameter		22.8	22.4	21.9	
Horizontal Parallax . .		2.2	2.2	2.2	2.2	Horizontal Parallax		2.1	2.1	2.1	

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	22 41 16.66	-0.979	-9 47 55.6	+0.09	7 58.0	1	22 45 59.99	+0.843	-9 12 35.4	+5.65	6 4.9
2	22 41 15.15	0.047	9 47 51.1	0.98	7 54.1	2	22 46 20.56	0.871	9 10 17.7	5.89	6 1.3
3	22 41 14.42	-0.014	9 47 41.8	0.48	7 50.1	3	22 46 41.79	0.899	9 7 56.0	5.99	5 57.7
4	22 41 14.46	+0.018	9 47 27.9	0.68	7 46.2	4	22 47 3.68	0.926	9 5 30.3	6.15	5 54.1
5	22 41 15.28	0.051	9 47 9.2	0.88	7 42.3	5	22 47 26.22	0.953	9 3 0.6	6.39	5 50.6
6	22 41 16.88	+0.083	-9 46 45.8	+1.08	7 38.4	6	22 47 49.40	+0.979	-9 0 27.0	+6.48	5 47.0
7	22 41 19.25	0.115	9 46 17.7	1.27	7 34.5	7	22 48 13.22	1.005	8 57 49.6	6.64	5 43.5
8	22 41 22.39	0.147	9 45 44.9	1.47	7 30.6	8	22 48 37.66	1.031	8 55 8.3	6.80	5 40.0
9	22 41 26.30	0.179	9 45 7.5	1.66	7 26.7	9	22 49 2.72	1.057	8 52 23.2	6.96	5 36.5
10	22 41 30.98	0.211	9 44 25.4	1.85	7 22.9	10	22 49 28.40	1.089	8 49 34.4	7.11	5 33.0
11	22 41 36.43	+0.243	-9 43 38.8	+2.04	7 19.1	11	22 49 54.67	+1.107	-8 46 41.9	+7.26	5 29.5
12	22 41 42.64	0.275	9 42 47.5	2.23	7 15.3	12	22 50 21.54	1.139	8 43 45.8	7.41	5 26.0
13	22 41 49.60	0.306	9 41 51.7	2.42	7 11.4	13	22 50 49.00	1.156	8 40 46.0	7.56	5 22.5
14	22 41 57.32	0.338	9 40 51.3	2.61	7 7.6	14	22 51 17.04	1.180	8 37 42.7	7.71	5 19.0
15	22 42 5.79	0.369	9 39 46.4	2.80	7 3.9	15	22 51 45.65	1.204	8 34 35.8	7.86	5 15.6
16	22 42 15.01	+0.400	-9 38 37.0	+2.98	7 0.1	16	22 52 14.82	+1.227	-8 31 25.4	+8.00	5 12.1
17	22 42 24.97	0.431	9 37 23.2	3.17	6 56.3	17	22 52 44.55	1.250	8 28 11.6	8.15	5 8.7
18	22 42 35.66	0.462	9 36 4.9	3.36	6 52.6	18	22 53 14.84	1.273	8 24 54.3	8.29	5 5.3
19	22 42 47.09	0.492	9 34 42.2	3.54	6 48.8	19	22 53 45.66	1.296	8 21 33.7	8.43	5 1.9
20	22 42 59.25	0.522	9 33 15.2	3.72	6 45.1	20	22 54 17.02	1.318	8 18 9.8	8.57	4 58.5
21	22 43 12.14	+0.552	-9 31 43.8	+3.90	6 41.4	21	22 54 48.91	+1.340	-8 14 42.5	+8.71	4 55.1
22	22 43 25.75	0.582	9 30 8.0	4.08	6 37.7	22	22 55 21.33	1.362	8 11 11.9	8.84	4 51.7
23	22 43 40.08	0.612	9 28 28.0	4.26	6 34.0	23	22 55 54.26	1.384	8 7 38.1	8.96	4 48.3
24	22 43 55.12	0.642	9 26 43.7	4.44	6 30.3	24	22 56 27.71	1.405	8 4 1.1	9.11	4 44.9
25	22 44 10.87	0.671	9 24 55.1	4.62	6 26.6	25	22 57 1.66	1.426	8 0 20.9	9.24	4 41.5
26	22 44 27.32	+0.700	-9 23 2.2	+4.80	6 23.0	26	22 57 36.11	+1.446	-7 56 37.5	+9.37	4 38.1
27	22 44 44.48	0.729	9 21 5.1	4.97	6 19.3	27	22 58 11.05	1.466	7 52 51.1	9.50	4 34.8
28	22 45 2.33	0.758	9 19 3.9	5.14	6 15.7	28	22 58 46.47	1.486	7 49 1.6	9.62	4 31.4
29	22 45 20.86	0.787	9 16 58.5	5.31	6 12.1	29	22 59 22.37	1.506	7 45 9.1	9.75	4 28.1
30	22 45 40.09	0.815	9 14 49.0	5.48	6 8.5	30	22 59 58.73	1.525	7 41 13.6	9.88	4 24.8
31	22 45 59.99	+0.843	-9 12 35.4	+5.65	6 4.9	31	23 0 35.56	+1.544	-7 37 15.1	+10.00	4 21.5
32	22 46 20.56	+0.871	-9 10 17.7	+5.89	6 1.3	32	23 1 12.84	+1.563	-7 33 13.7	+10.12	4 18.2
Day of the Month.	1st.	9th.	17th.	25th.		Day of the Month.	3d.	11th.	19th.	27th.	35th.
Polar Semidiameter . .	21'.4	20'.8	20'.3	19'.8		Polar Semidiameter . .	19'.3	18'.8	18'.3	17'.9	17'.5
Horizontal Parallax . .	2.0	2.0	1.9	1.9		Horizontal Parallax . .	1.8	1.8	1.7	1.7	1.6

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	11 15 52.40	-0.065	+6 53 10.8	+1.14	16 29.7	1	11 11 59.24	-0.536	+7 25 52.7	+3.92	14 23.9
2	11 15 50.64	0.069	6 53 39.4	1.94	16 25.8	2	11 11 46.25	0.548	7 27 27.6	3.99	14 19.7
3	11 15 48.48	0.099	6 54 10.5	1.35	16 21.8	3	11 11 32.97	0.559	7 29 4.1	4.05	14 15.6
4	11 15 45.91	0.116	6 54 44.1	1.46	16 17.8	4	11 11 19.41	0.570	7 30 42.0	4.11	14 11.4
5	11 15 42.93	0.133	6 55 20.3	1.56	16 13.8	5	11 11 5.57	0.581	7 32 21.4	4.17	14 7.3
6	11 15 39.53	-0.150	+6 55 58.9	+1.66	16 9.8	6	11 10 51.48	-0.592	+7 34 2.1	+4.23	14 3.1
7	11 15 35.74	0.166	6 56 40.0	1.76	16 5.8	7	11 10 37.13	0.603	7 35 44.2	4.28	13 58.9
8	11 15 31.54	0.183	6 57 23.5	1.86	16 1.8	8	11 10 22.54	0.613	7 37 27.5	4.33	13 54.7
9	11 15 26.95	0.200	6 58 9.5	1.96	15 57.8	9	11 10 7.71	0.623	7 39 12.0	4.38	13 50.6
10	11 15 21.96	0.217	6 58 57.9	2.06	15 53.8	10	11 9 52.65	0.632	7 40 57.7	4.43	13 46.4
11	11 15 16.57	-0.233	+6 59 48.8	+2.16	15 49.8	11	11 9 37.37	-0.641	+7 42 44.5	+4.47	13 42.2
12	11 15 10.80	0.249	7 0 42.0	2.26	15 45.8	12	11 9 21.88	0.650	7 44 32.2	4.51	13 38.0
13	11 15 4.63	0.265	7 1 37.5	2.36	15 41.7	13	11 9 6.19	0.658	7 46 21.0	4.55	13 33.8
14	11 14 58.07	0.281	7 2 35.4	2.46	15 37.7	14	11 8 50.31	0.666	7 48 10.6	4.59	13 29.6
15	11 14 51.13	0.297	7 3 35.5	2.56	15 33.6	15	11 8 34.24	0.673	7 50 1.2	4.62	13 25.4
16	11 14 43.82	-0.313	+7 4 37.0	+2.65	15 29.6	16	11 8 18.00	-0.680	+7 51 52.4	+4.65	13 21.2
17	11 14 36.14	0.328	7 5 42.5	2.74	15 25.5	17	11 8 1.59	0.687	7 53 44.3	4.68	13 17.0
18	11 14 28.08	0.343	7 6 49.3	2.83	15 21.4	18	11 7 45.03	0.693	7 55 36.9	4.70	13 12.8
19	11 14 19.66	0.358	7 7 58.3	2.92	15 17.4	19	11 7 28.32	0.699	7 57 30.0	4.72	13 8.6
20	11 14 10.88	0.373	7 9 9.3	3.01	15 13.3	20	11 7 11.47	0.705	7 59 23.7	4.74	13 4.4
21	11 14 1.75	-0.388	+7 10 22.5	+3.09	15 9.2	21	11 6 54.49	-0.710	+8 1 17.8	+4.76	13 0.2
22	11 13 52.26	0.402	7 11 37.7	3.17	15 5.1	22	11 6 37.40	0.715	8 3 12.3	4.77	12 56.0
23	11 13 42.43	0.416	7 12 54.8	3.25	15 1.0	23	11 6 20.20	0.719	8 5 7.1	4.78	12 51.7
24	11 13 32.26	0.430	7 14 13.9	3.33	14 56.9	24	11 6 2.89	0.723	8 7 2.2	4.79	12 47.5
25	11 13 21.76	0.444	7 15 35.0	3.41	14 52.8	25	11 5 45.49	0.727	8 8 57.5	4.80	12 43.3
26	11 13 10.92	-0.458	+7 16 57.9	+3.49	14 48.7	26	11 5 28.01	-0.730	+8 10 53.0	+4.81	12 39.1
27	11 12 59.75	0.472	7 18 22.7	3.57	14 44.6	27	11 5 10.46	0.733	8 12 48.5	4.81	12 34.8
28	11 12 48.27	0.485	7 19 49.3	3.64	14 40.4	28	11 4 52.84	0.735	8 14 44.1	4.81	12 30.6
29	11 12 36.47	0.498	7 21 17.6	3.71	14 36.3	29	11 4 35.17	0.737	8 16 39.7	4.81	12 26.4
30	11 12 24.36	0.511	7 22 47.6	3.78	14 32.2	30	11 4 17.46	0.739	8 18 35.1	4.81	12 22.2
31	11 12 11.95	-0.524	+7 24 19.4	+3.85	14 28.0	31	11 3 59.71	-0.740	+8 20 30.4	+4.80	12 18.0
32	11 11 59.24	-0.536	+7 25 52.7	+3.92	14 23.9	32	11 3 41.94	-0.741	+8 22 25.5	+4.79	12 13.7
Day of the Month.						Day of the Month.					
1st.						2d.					
9th.						10th.					
7th.						18th.					
25th.						26th.					
Polar Semidiameter . .						Polar Semidiameter . .					
Horizontal Parallax . .						Horizontal Parallax . .					

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	11 4 35.17	-0.737	+8 16 39.7	+4.81	12 26.4	1	10 55 55.05	-0.599	+9 10 31.5	+3.51	10 15.9
2	11 4 17.46	0.739	8 18 35.1	4.81	12 22.2	2	10 55 40.79	0.589	9 11 54.9	3.44	10 11.7
3	11 3 59.71	0.740	8 20 30.4	4.80	12 18.0	3	10 55 26.78	0.578	9 13 16.5	3.36	10 7.6
4	11 3 41.94	0.741	8 22 25.5	4.79	12 13.7	4	10 55 13.03	0.567	9 14 36.2	3.28	10 3.4
5	11 3 24.15	0.741	8 24 20.3	4.78	12 9.5	5	10 54 59.53	0.556	9 15 54.0	3.20	9 59.3
6	11 3 6.36	-0.741	+8 26 14.8	+4.76	12 5.3	6	10 54 46.31	-0.545	+9 17 9.9	+3.12	9 55.1
7	11 2 48.58	0.741	8 28 8.8	4.74	12 1.0	7	10 54 33.36	0.533	9 18 23.8	3.04	9 51.0
8	11 2 30.81	0.740	8 30 2.4	4.72	11 56.8	8	10 54 20.70	0.521	9 19 35.7	2.96	9 46.8
9	11 2 13.07	0.739	8 31 55.4	4.70	11 52.6	9	10 54 8.34	0.509	9 20 45.6	2.88	9 42.7
10	11 1 55.36	0.737	8 33 47.9	4.67	11 48.3	10	10 53 56.26	0.497	9 21 53.5	2.79	9 38.6
11	11 1 37.71	-0.735	+8 35 39.7	+4.64	11 44.1	11	10 53 44.49	-0.484	+9 22 59.2	+2.70	9 34.4
12	11 1 20.12	0.732	8 37 30.7	4.61	11 39.9	12	10 53 33.04	0.471	9 24 2.8	2.61	9 30.3
13	11 1 2.59	0.729	8 39 20.9	4.58	11 35.7	13	10 53 21.89	0.458	9 25 4.3	2.52	9 26.2
14	11 0 45.14	0.725	8 41 10.3	4.54	11 31.5	14	10 53 11.07	0.445	9 26 3.6	2.43	9 22.1
15	11 0 27.78	0.721	8 42 58.8	4.50	11 27.2	15	10 53 0.56	0.431	9 27 0.7	2.34	9 18.0
16	11 0 10.52	-0.717	+8 44 46.2	+4.46	11 23.0	16	10 52 50.40	-0.417	+9 27 55.5	+2.24	9 13.9
17	10 59 53.37	0.712	8 46 32.7	4.42	11 18.8	17	10 52 40.56	0.403	9 28 48.1	2.14	9 9.8
18	10 59 36.34	0.707	8 48 18.1	4.37	11 14.6	18	10 52 31.06	0.389	9 29 38.5	2.05	9 5.7
19	10 59 19.44	0.701	8 50 2.3	4.32	11 10.4	19	10 52 21.91	0.375	9 30 26.5	1.96	9 1.6
20	10 59 2.67	0.695	8 51 45.3	4.27	11 6.2	20	10 52 13.10	0.360	9 31 12.3	1.86	8 57.6
21	10 58 46.04	-0.689	+8 53 27.1	+4.22	11 2.0	21	10 52 4.64	-0.345	+9 31 55.8	+1.77	8 53.5
22	10 58 29.57	0.683	8 55 7.6	4.16	10 57.8	22	10 51 56.54	0.330	9 32 36.9	1.67	8 49.4
23	10 58 13.26	0.676	8 56 46.8	4.10	10 53.6	23	10 51 48.78	0.315	9 33 15.7	1.58	8 45.4
24	10 57 57.12	0.669	8 58 24.6	4.04	10 49.4	24	10 51 41.39	0.300	9 33 52.2	1.48	8 41.3
25	10 57 41.15	0.661	9 0 0.9	3.98	10 45.2	25	10 51 34.35	0.285	9 34 26.4	1.38	8 37.3
26	10 57 25.38	-0.653	+9 1 35.8	+3.92	10 41.0	26	10 51 27.68	-0.270	+9 34 58.0	+1.28	8 33.2
27	10 57 9.79	0.645	9 3 9.0	3.86	10 36.8	27	10 51 21.38	0.255	9 35 27.4	1.18	8 29.2
28	10 56 54.41	0.637	9 4 40.8	3.79	10 32.6	28	10 51 15.45	0.240	9 35 54.4	1.09	8 25.2
29	10 56 39.24	0.628	9 6 11.0	3.72	10 28.4	29	10 51 9.89	0.225	9 36 19.1	0.99	8 21.2
30	10 56 24.28	0.619	9 7 39.6	3.65	10 24.2	30	10 51 4.70	0.209	9 36 41.3	0.89	8 17.1
31	10 56 9.55	-0.609	+9 9 6.4	+3.58	10 20.1	31	10 50 59.89	-0.193	+9 37 1.1	+0.79	8 13.1
32	10 55 55.05	-0.599	+9 10 31.5	+3.51	10 15.9	32	10 50 55.46	-0.177	+9 37 18.5	+0.69	8 9.1
Day of the Month.						Day of the Month.					
6th.						7th.					
14th.						15th.					
22d.						23d.					
30th.											
Polar Semidiameter . .						Polar Semidiameter					
Horizontal Parallax . .						Horizontal Parallax					
9'.3						9'.2					
1.1						1.0					
1.1						1.0					
1.1						1.0					
1.0						1.0					

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The — sign indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	10 50 59.89	-0.193	+9 37 1.1	+0.79	8 13.1	1	10 51 43.96	+0.306	+9 27 17.6	-2.30	6 12.0
2	10 50 55.46	0.177	9 37 18.5	0.69	8 9.1	2	10 51 50.79	0.332	9 26 21.4	2.30	6 8.2
3	10 50 51.41	0.161	9 37 33.5	0.59	8 5.1	3	10 51 58.68	0.357	9 25 22.9	2.48	6 4.4
4	10 50 47.75	0.145	9 37 46.0	0.49	8 1.1	4	10 52 6.94	0.359	9 24 22.3	2.57	6 0.6
5	10 50 44.49	0.129	9 37 56.1	0.38	7 57.1	5	10 52 15.56	0.367	9 23 19.3	2.66	5 56.8
6	10 50 41.60	-0.113	+9 38 3.8	+0.98	7 53.2	6	10 52 24.55	+0.382	+9 22 14.3	-2.75	5 53.1
7	10 50 39.10	0.096	9 38 9.0	0.17	7 49.2	7	10 52 33.91	0.397	9 21 7.1	2.84	5 49.3
8	10 50 36.99	0.080	9 38 11.8	+0.07	7 45.2	8	10 52 43.61	0.412	9 19 57.7	2.93	5 45.5
9	10 50 35.27	0.063	9 38 12.1	-0.04	7 41.3	9	10 52 53.67	0.427	9 18 46.3	3.02	5 41.7
10	10 50 33.95	0.047	9 38 10.0	0.14	7 37.3	10	10 53 4.09	0.442	9 17 32.6	3.11	5 38.0
11	10 50 33.02	-0.030	+9 38 5.4	-0.94	7 33.4	11	10 53 14.86	+0.456	+9 16 16.9	-3.20	5 34.2
12	10 50 32.49	-0.014	9 37 58.4	0.34	7 29.5	12	10 53 25.97	0.470	9 14 59.1	3.29	5 30.5
13	10 50 32.34	+0.003	9 37 49.0	0.45	7 25.5	13	10 53 37.42	0.484	9 13 39.3	3.38	5 26.7
14	10 50 32.59	0.000	9 37 37.1	0.55	7 21.6	14	10 53 49.22	0.498	9 12 17.4	3.46	5 23.0
15	10 50 33.24	0.036	9 37 22.7	0.65	7 17.7	15	10 54 1.36	0.512	9 10 53.5	3.54	5 19.2
16	10 50 34.27	+0.052	+9 37 5.9	-0.75	7 13.8	16	10 54 13.82	+0.526	+9 9 27.7	-3.62	5 15.5
17	10 50 35.69	0.068	9 36 46.7	0.85	7 9.8	17	10 54 26.61	0.540	9 7 59.8	3.70	5 11.8
18	10 50 37.52	0.084	9 36 25.2	0.95	7 5.9	18	10 54 39.74	0.554	9 6 30.0	3.78	5 8.1
19	10 50 39.73	0.100	9 36 1.2	1.05	7 2.1	19	10 54 53.18	0.567	9 4 58.3	3.86	5 4.4
20	10 50 42.32	0.116	9 35 34.9	1.15	6 58.2	20	10 55 6.94	0.580	9 3 24.7	3.94	5 0.7
21	10 50 45.30	+0.132	+9 35 6.2	-1.25	6 54.3	21	10 55 21.02	+0.593	+9 1 49.2	-4.02	4 57.0
22	10 50 48.67	0.148	9 34 35.1	1.34	6 50.4	22	10 55 35.41	0.606	9 0 11.8	4.10	4 53.3
23	10 50 52.42	0.164	9 34 1.8	1.44	6 46.5	23	10 55 50.12	0.619	8 58 32.6	4.18	4 49.6
24	10 50 56.55	0.180	9 33 26.1	1.54	6 42.7	24	10 56 5.13	0.632	8 56 51.6	4.26	4 45.9
25	10 51 1.07	0.196	9 32 48.0	1.63	6 38.8	25	10 56 20.45	0.645	8 55 8.6	4.33	4 42.2
26	10 51 5.96	+0.212	+9 32 7.6	-1.73	6 35.0	26	10 56 36.06	+0.657	+8 53 23.9	-4.40	4 38.6
27	10 51 11.24	0.228	9 31 25.0	1.82	6 31.2	27	10 56 51.98	0.669	8 51 37.5	4.48	4 34.9
28	10 51 16.89	0.244	9 30 40.1	1.92	6 27.3	28	10 57 8.19	0.681	8 49 49.3	4.55	4 31.3
29	10 51 22.92	0.260	9 29 52.8	2.02	6 23.5	29	10 57 24.69	0.693	8 47 59.4	4.62	4 27.6
30	10 51 29.33	0.276	9 29 3.3	2.11	6 19.7	30	10 57 41.48	0.705	8 46 7.7	4.69	4 24.0
31	10 51 36.11	+0.291	+9 28 11.6	-2.21	6 15.8	31	10 57 58.57	+0.717	+8 44 14.3	-4.76	4 20.3
32	10 51 43.26	+0.306	+9 27 17.6	-2.30	6 12.0	32	10 58 15.92	+0.729	+8 42 19.3	-4.83	4 16.7
Day of the Month.	1st.	9th.	17th.	25th.		Day of the Month.	2d.	10th.	18th.	26th.	
Polar Semidiameter . .	8.9	8.7	8.5	8.5		Polar Semidiameter . .	8.4	8.2	8.1	8.0	
Horizontal Parallax . .	1.0	1.0	1.0	1.0		Horizontal Parallax . .	0.9	0.9	0.9	0.9	

NOTE.—The sign + indicates north declinations: the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	10 57 58.57	+0.717	+8 44 14.3	-4.76	4 20.3	1	11 8 49.56	+1.009	+7 33 37.2	-6.48	2 29.2
2	10 58 15.92	0.729	8 42 19.3	4.83	4 16.7	2	11 9 13.83	1.016	7 31 1.2	6.52	2 25.6
3	10 58 33.56	0.741	8 40 22.6	4.90	4 13.0	3	11 9 38.26	1.022	7 28 24.3	6.56	2 22.1
4	10 58 51.48	0.753	8 38 24.3	4.97	4 9.4	4	11 10 2.84	1.028	7 25 46.4	6.60	2 18.6
5	10 59 9.67	0.763	8 36 24.3	5.04	4 5.7	5	11 10 27.58	1.034	7 23 7.5	6.64	2 15.1
6	10 59 28.12	+0.774	+8 34 22.8	-5.10	4 2.1	6	11 10 52.48	+1.040	+7 20 27.8	-6.68	2 11.6
7	10 59 46.84	0.785	8 32 19.7	5.17	3 58.5	7	11 11 17.52	1.046	7 17 47.2	6.72	2 8.1
8	11 0 5.83	0.796	8 30 14.9	5.24	3 54.9	8	11 11 42.70	1.052	7 15 5.8	6.75	2 4.6
9	11 0 25.08	0.807	8 28 8.7	5.30	3 51.3	9	11 12 8.03	1.058	7 12 23.4	6.78	2 1.1
10	11 0 44.57	0.818	8 26 1.0	5.36	3 47.7	10	11 12 33.50	1.063	7 9 40.4	6.81	1 57.6
11	11 1 4.31	+0.826	+8 23 51.8	-5.42	3 44.1	11	11 12 59.08	+1.068	+7 6 56.7	-6.84	1 54.1
12	11 1 24.30	0.836	8 21 41.0	5.48	3 40.5	12	11 13 24.80	1.073	7 4 12.2	6.87	1 50.6
13	11 1 44.53	0.846	8 19 28.9	5.54	3 36.9	13	11 13 50.63	1.078	7 1 27.0	6.90	1 47.1
14	11 2 4.99	0.856	8 17 15.3	5.60	3 33.3	14	11 14 16.58	1.083	6 58 41.1	6.93	1 43.6
15	11 2 25.69	0.868	8 15 0.4	5.66	3 29.7	15	11 14 42.65	1.088	6 55 54.5	6.95	1 40.1
16	11 2 46.62	+0.877	+8 12 44.1	-5.71	3 26.1	16	11 15 8.83	+1.093	+6 53 7.4	-6.98	1 36.6
17	11 3 7.78	0.886	8 10 26.5	5.77	3 22.5	17	11 15 35.13	1.098	6 50 19.6	7.01	1 33.1
18	11 3 29.15	0.895	8 8 7.6	5.82	3 18.9	18	11 16 1.52	1.102	6 47 31.2	7.03	1 29.6
19	11 3 50.74	0.904	8 5 47.4	5.87	3 15.3	19	11 16 28.01	1.106	6 44 42.3	7.05	1 26.1
20	11 4 12.54	0.913	8 3 25.9	5.92	3 11.8	20	11 16 54.60	1.110	6 41 52.9	7.07	1 22.6
21	11 4 34.56	+0.921	+8 1 3.2	-5.97	3 8.2	21	11 17 21.28	+1.114	+6 39 2.9	-7.09	1 19.1
22	11 4 56.77	0.930	7 58 39.3	6.02	3 4.7	22	11 17 48.05	1.118	6 36 12.4	7.11	1 15.6
23	11 5 19.19	0.939	7 56 14.1	6.07	3 1.1	23	11 18 14.91	1.121	6 33 21.5	7.13	1 12.1
24	11 5 41.81	0.947	7 53 47.8	6.12	2 57.6	24	11 18 41.85	1.124	6 30 30.1	7.15	1 8.6
25	11 6 4.64	0.955	7 51 20.4	6.17	2 54.0	25	11 19 8.87	1.127	6 27 38.3	7.17	1 5.1
26	11 6 27.65	+0.963	+7 48 51.8	-6.22	2 50.5	26	11 19 35.96	+1.130	+6 24 46.1	-7.19	1 1.6
27	11 6 50.85	0.971	7 46 21.9	6.27	2 46.9	27	11 20 3.13	1.133	6 21 53.6	7.21	0 58.2
28	11 7 14.23	0.979	7 43 51.1	6.32	2 43.4	28	11 20 30.36	1.136	6 19 0.6	7.22	0 54.7
29	11 7 37.80	0.987	7 41 19.2	6.36	2 39.8	29	11 20 57.66	1.139	6 16 7.4	7.23	0 51.2
30	11 8 1.54	0.995	7 38 46.2	6.40	2 36.3	30	11 21 25.02	1.141	6 13 13.8	7.24	0 47.7
31	11 8 25.46	+1.002	+7 36 12.2	-6.44	2 32.7	31	11 21 52.44	+1.143	+6 10 19.9	-7.25	0 44.2
32	11 8 49.56	+1.009	+7 33 37.2	-6.48	2 29.2	32	11 22 19.91	+1.145	+6 7 25.8	-7.26	0 40.8

Day of the Month.	4th.	12th.	20th.	28th.	Day of the Month.	5th.	13th.	21st.	29th.
Polar Semidiameter . .	7".9	7".8	7".8	7".7	Polar Semidiameter . .	7".6	7".6	7".5	7".5
Horizontal Parallax . .	0.9	0.9	0.9	0.9	Horizontal Parallax . .	0.9	0.9	0.9	0.9

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME																
SEPTEMBER.						OCTOBER										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m					
1	11 22 19.91	+1.145	+6 7 25.8	-7.96	0 40.8	1	11 36 8.44	+1.131	+4 40 38.9	-7.05	22 53.1					
2	11 22 47.44	1.147	6 4 31.5	7.97	0 37.3	2	11 36 35.57	1.128	4 37 50.2	7.02	22 49.6					
3	11 23 15.01	1.149	6 1 36.9	7.97	0 33.8	3	11 37 2.62	1.125	4 35 2.1	6.99	22 46.1					
4	11 23 42.61	1.151	5 58 42.2	7.98	0 30.3	4	11 37 29.59	1.122	4 32 14.7	6.96	22 42.7					
5	11 24 10.24	1.152	5 55 47.3	7.98	0 26.9	5	11 37 56.48	1.118	4 29 27.9	6.93	22 39.2					
6	11 24 37.91	+1.153	+5 52 52.4	-7.99	0 23.4	6	11 38 23.27	+1.114	+4 26 41.8	-6.90	22 35.7					
7	11 25 5.61	1.154	5 49 57.3	7.99	0 19.9	7	11 38 49.98	1.110	4 23 56.5	6.87	22 32.2					
8	11 25 33.33	1.155	5 47 2.2	7.30	0 16.4	8	11 39 16.59	1.106	4 21 11.8	6.84	22 28.7					
9	11 26 1.07	1.156	5 44 7.0	7.30	0 13.0	9	11 39 43.10	1.102	4 18 28.0	6.81	22 25.2					
10	11 26 28.83	1.156	5 41 11.9	7.30	0 9.5	10	11 40 9.50	1.098	4 15 45.1	6.78	22 21.7					
11	11 26 56.60	+1.157	+5 38 18.8	-7.99	0 6.0	11	11 40 35.79	+1.093	+4 13 2.9	-6.74	22 18.2					
12	11 27 24.37	1.157	5 35 21.7	7.99	0 2.5	12	11 41 1.97	1.088	4 10 21.5	6.70	22 14.7					
13	11 27 52.14	1.157	5 32 26.8	7.98	23 55.6	13	11 41 28.05	1.083	4 7 41.1	6.66	22 11.2					
14	11 28 19.91	1.157	5 29 31.9	7.98	23 52.1	14	11 41 53.99	1.078	4 5 1.7	6.62	22 7.7					
15	11 28 47.69	1.156	5 26 37.1	7.97	23 48.6	15	11 42 19.80	1.073	4 2 23.2	6.58	22 4.2					
16	11 29 15.45	+1.156	+5 23 42.5	-7.97	23 45.2	16	11 42 45.49	+1.068	+3 59 45.6	-6.54	22 0.7					
17	11 29 43.20	1.155	5 20 48.1	7.96	23 41.7	17	11 43 11.05	1.062	3 57 9.1	6.50	21 57.2					
18	11 30 10.94	1.155	5 17 53.9	7.95	23 38.2	18	11 43 36.47	1.056	3 54 33.6	6.46	21 53.7					
19	11 30 38.65	1.154	5 14 59.9	7.95	23 34.8	19	11 44 1.75	1.050	3 51 59.1	6.41	21 50.1					
20	11 31 6.34	1.153	5 12 6.2	7.94	23 31.3	20	11 44 26.89	1.044	3 49 25.7	6.37	21 46.6					
21	11 31 34.01	+1.152	+5 9 12.8	-7.93	23 27.8	21	11 44 51.88	+1.038	+3 46 53.4	-6.33	21 43.1					
22	11 32 1.65	1.151	5 6 19.6	7.92	23 24.3	22	11 45 16.72	1.032	3 44 22.2	6.28	21 39.6					
23	11 32 29.26	1.150	5 3 26.7	7.90	23 20.8	23	11 45 41.40	1.025	3 41 52.3	6.23	21 36.0					
24	11 32 56.83	1.148	5 0 34.3	7.18	23 17.4	24	11 46 5.92	1.018	3 39 23.4	6.18	21 32.5					
25	11 33 24.35	1.146	4 57 42.1	7.17	23 13.9	25	11 46 30.28	1.011	3 36 55.8	6.13	21 29.0					
26	11 33 51.84	+1.144	+4 54 50.4	-7.15	23 10.5	26	11 46 54.47	+1.004	+3 34 29.4	-6.08	21 25.5					
27	11 34 19.28	1.142	4 51 59.1	7.13	23 7.0	27	11 47 18.48	0.997	3 32 4.3	6.03	21 21.9					
28	11 34 46.66	1.140	4 49 8.3	7.11	23 3.5	28	11 47 42.32	0.990	3 29 40.5	5.97	21 18.4					
29	11 35 13.98	1.137	4 46 18.0	7.09	23 0.0	29	11 48 5.99	0.982	3 27 18.0	5.91	21 14.9					
30	11 35 41.24	1.134	4 43 28.2	7.07	22 56.6	30	11 48 29.46	0.974	3 24 56.9	5.85	21 11.4					
31	11 36 8.44	+1.131	+4 40 38.9	-7.05	22 53.1	31	11 48 52.73	+0.966	+3 22 37.2	-5.79	21 7.8					
32	11 36 35.57	+1.128	+4 37 50.2	-7.02	22 49.6	32	11 49 15.82	+0.958	+3 20 18.9	-5.73	21 4.3					
Day of the Month.					6th.	14th.	22d.	30th.	Day of the Month.			8th.	16th.	24th.		
Polar Semidiameter . .					7.5	7.5	7.5	7.5	Polar Semidiameter					7.6	7.6	7.6
Horizontal Parallax . .					0.9	0.9	0.9	0.9	Horizontal Parallax					0.9	0.9	0.9
NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.																

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	11 49 15.82	+0.958	+3 20 18.9	-5.73	21 4.3	1	11 58 56.22	+0.630	+2 24 27.8	-3.42	19 15.8
2	11 49 38.70	0.940	3 18 2.1	5.67	21 0.7	2	11 59 11.17	0.617	2 23 6.9	3.33	19 12.1
3	11 50 1.37	0.940	3 15 46.7	5.61	20 57.1	3	11 59 25.80	0.603	2 21 48.1	3.23	19 8.4
4	11 50 23.83	0.931	3 13 32.9	5.55	20 53.5	4	11 59 40.10	0.589	2 20 31.7	3.14	19 4.7
5	11 50 46.08	0.922	3 11 20.6	5.49	20 50.0	5	11 59 54.06	0.575	2 19 17.6	3.05	19 1.0
6	11 51 8.10	+0.913	+3 9 9.9	-5.42	20 46.4	6	12 0 7.68	+0.561	+2 18 5.8	-2.95	18 57.3
7	11 51 29.90	0.904	3 7 0.9	5.35	20 42.8	7	12 0 20.97	0.547	2 16 56.3	2.85	18 53.5
8	11 51 51.48	0.894	3 4 53.4	5.26	20 39.2	8	12 0 33.90	0.532	2 15 49.2	2.75	18 49.8
9	11 52 12.83	0.885	3 2 47.6	5.21	20 35.7	9	12 0 46.49	0.518	2 14 44.5	2.65	18 46.1
10	11 52 33.94	0.875	3 0 43.4	5.14	20 32.1	10	12 0 58.73	0.503	2 13 42.1	2.55	18 42.3
11	11 52 54.82	+0.865	+2 58 41.0	-5.07	20 28.5	11	12 1 10.63	+0.488	+2 12 42.1	-2.45	18 38.6
12	11 53 15.45	0.855	2 56 40.3	5.00	20 24.9	12	12 1 22.17	0.473	2 11 44.5	2.35	18 34.9
13	11 53 35.84	0.845	2 54 41.4	4.92	20 21.3	13	12 1 33.35	0.458	2 10 49.3	2.25	18 31.1
14	11 53 55.97	0.834	2 52 44.2	4.85	20 17.7	14	12 1 44.17	0.443	2 9 56.6	2.15	18 27.4
15	11 54 15.85	0.823	2 50 48.8	4.77	20 14.1	15	12 1 54.63	0.428	2 9 6.3	2.05	18 23.6
16	11 54 35.47	+0.812	+2 48 55.3	-4.69	20 10.5	16	12 2 4.73	+0.413	+2 8 18.5	-1.95	18 19.8
17	11 54 54.84	0.801	2 47 3.6	4.61	20 6.9	17	12 2 14.45	0.398	2 7 33.2	1.84	18 16.1
18	11 55 13.94	0.790	2 45 13.8	4.53	20 3.3	18	12 2 23.80	0.382	2 6 50.3	1.73	18 12.3
19	11 55 32.77	0.779	2 43 25.9	4.45	19 59.7	19	12 2 32.78	0.367	2 6 9.9	1.63	18 8.5
20	11 55 51.33	0.768	2 41 39.8	4.37	19 56.0	20	12 2 41.39	0.351	2 5 32.1	1.53	18 4.7
21	11 56 9.61	+0.756	+2 39 55.7	-4.29	19 52.4	21	12 2 49.62	+0.335	+2 4 56.8	-1.42	18 0.9
22	11 56 27.61	0.744	2 38 13.7	4.21	19 48.7	22	12 2 57.46	0.319	2 4 24.1	1.31	17 57.1
23	11 56 45.32	0.732	2 36 33.6	4.13	19 45.1	23	12 3 4.93	0.303	2 3 53.9	1.20	17 53.3
24	11 57 2.74	0.720	2 34 55.5	4.05	19 41.4	24	12 3 12.01	0.287	2 3 26.2	1.10	17 49.4
25	11 57 19.87	0.708	2 33 19.4	3.96	19 37.8	25	12 3 18.70	0.271	2 3 1.2	0.99	17 45.6
26	11 57 36.71	+0.695	+2 31 45.5	-3.87	19 34.1	26	12 3 25.00	+0.255	+2 2 38.7	-0.88	17 41.8
27	11 57 53.23	0.682	2 30 13.6	3.78	19 30.5	27	12 3 30.90	0.239	2 2 18.8	0.77	17 38.0
28	11 58 9.45	0.669	2 28 43.9	3.69	19 26.8	28	12 3 36.42	0.222	2 2 1.5	0.66	17 34.1
29	11 58 25.37	0.656	2 27 16.3	3.60	19 23.1	29	12 3 41.54	0.206	2 1 46.9	0.56	17 30.3
30	11 58 40.95	0.643	2 25 50.9	3.51	19 19.4	30	12 3 46.25	0.189	2 1 34.9	0.45	17 26.4
31	11 58 56.22	+0.630	+2 24 27.8	-3.42	19 15.8	31	12 3 50.57	+0.172	+2 1 25.5	-0.34	17 22.5
32	11 59 11.17	+0.617	+2 23 6.9	-3.33	19 12.1	32	12 3 54.49	+0.155	+2 1 18.7	-0.23	17 18.7
Day of the Month.	1st.	9th.	17th.	25th.		Day of the Month.	3d.	11th.	19th.	27th.	35th.
Polar Semidiameter . .	7.7	7.8	7.9	8.0		Polar Semidiameter . .	8.1	8.2	8.3	8.4	8.5
Horizontal Parallax . .	0.9	0.9	0.9	0.9		Horizontal Parallax . .	0.9	0.9	0.9	1.0	1.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

MEAN PLACES FOR THE BEGINNING OF 1891.

Name of Star.		Magni- tude.	Right Ascension.			Annual Variation.	Declination.			Annual Variation.
			h	m	s		°	'	"	
α	Andromedæ . . .	2	0	2	45.21	+ 3.092	+ 28	29	19.0	+ 19.88
β	Cassiopeæ . . .	2	0	3	21.77	3.175	+ 58	32	53.7	19.85
γ	Pegasi (<i>Algenib</i>) . . .	3	0	7	37.37	3.084	+ 14	34	39.1	20.02
ϵ	Ceti . . .	3	0	13	52.28	3.053	— 9	25	42.6	19.96
β	Hydri . . .	3	0	20	0.78	3.229	— 77	52	5.5	20.28
α	Cassiopeæ . (var.) . .	2	0	34	19.42	+ 3.375	+ 55	56	21.8	+ 19.79
β	Ceti . . .	2	0	38	7.11	3.014	— 18	35	6.3	19.80
γ	Cassiopeæ . . .	2	0	50	7.86	3.580	+ 60	7	34.5	19.56
β	Andromedæ . . .	2	1	3	37.77	3.345	+ 35	2	32.9	19.16
θ^1	Ceti . . .	3	1	18	34.49	2.997	— 8	44	45.5	19.67
α	Urs. Min. (<i>Polaris</i>) . .	2	1	18	54.56	+ 23.510	+ 88	43	37.3	+ 18.88
α	Eridani (<i>Achernar</i>) . .	1	1	33	38.93	2.232	— 57	47	26.5	18.36
ζ	Ceti . . .	3	1	46	4.81	2.962	— 10	52	29.1	17.82
β	Arietis . . .	3	1	48	37.09	3.304	+ 20	16	29.8	17.72
γ	Andromedæ . . .	2	1	57	12.51	3.661	+ 41	48	22.8	17.44
α	Arietis . . .	2	2	1	1.72	+ 3.371	+ 22	56	48.2	+ 17.17
β	Trianguli . . .	3	2	3	3.48	3.555	+ 34	28	17.1	17.20
ϵ	Cassiopeæ . . .	4	2	20	5.01	4.864	+ 66	54	42.6	16.43
γ	Ceti . . .	3	2	37	39.13	3.103	+ 2	46	33.9	15.34
α	Ceti . . .	2	2	56	34.87	3.130	+ 3	39	42.2	14.30
β	Persei (<i>Algol</i>) (var.) . .	3	3	1	4.58	+ 3.884	+ 40	32	6.4	+ 14.11
α	Persei . . .	2	3	16	32.52	4.258	+ 49	28	21.4	13.09
ϵ	Eridani . . .	3	3	27	47.68	2.824	— 9	49	38.6	12.39
η	Tauri . . .	3	3	41	0.27	3.557	+ 23	46	3.0	11.37
ζ	Persei . . .	3	3	47	16.81	+ 3.760	+ 31	33	33.2	10.94
γ	Hydri . . .	3	3	48	55.76	— 0.995	— 74	34	22.3	+ 10.98
γ	Eridani . . .	3	3	52	56.67	+ 2.799	— 13	49	8.5	10.44
c	Persei . . .	4	4	0	44.91	4.338	+ 47	25	14.7	9.93
ϵ	Tauri . . .	4	4	22	15.09	3.498	+ 18	56	17.1	8.25
α	Tauri (<i>Aldebaran</i>) . .	1	4	29	39.95	3.438	+ 16	17	22.5	7.51
ϵ	Aurigæ . . .	3	4	49	53.72	+ 3.901	+ 32	59	34.3	+ 6.02
β	Eridani . . .	3	5	2	29.46	2.949	— 5	13	40.1	4.92
α	Aurigæ (<i>Capella</i>) . .	1	5	8	38.22	4.425	+ 45	53	10.7	4.02
β	Orionis (<i>Rigel</i>) . .	1	5	9	17.96	2.881	— 8	19	41.1	4.39
β	Tauri . . .	2	5	19	24.08	3.789	+ 28	30	52.8	3.35
δ	Orionis . (var.) . .	3	5	26	26.27	+ 3.064	— 0	22	49.4	+ 2.92
α	Leporis . . .	3	5	27	55.36	2.645	— 17	54	2.8	2.80
ϵ	Orionis . . .	2	5	30	40.94	3.042	— 1	16	19.4	2.56
α	Columbæ . . .	2	5	35	42.18	2.173	— 34	7	57.6	2.08
κ	Orionis . . .	3	5	42	35.18	2.845	— 9	42	31.9	1.58
α	Orionis . (var.) . .	1	5	49	16.23	+ 3.247	+ 7	23	10.1	+ 0.95
β	Aurigæ . . .	2	5	51	32.01	4.402	+ 44	56	7.7	0.73
θ	Aurigæ . . .	3	5	52	17.35	4.092	+ 37	12	15.2	+ 0.59
η	Geminorum . . .	3	6	8	17.92	3.623	+ 22	32	16.0	— 0.74
μ	Geminorum . . .	3	6	16	22.00	3.031	+ 22	34	7.8	1.55
α	Argus (<i>Canopus</i>) . .	1	6	21	32.02	+ 1.330	— 52	38	10.6	— 1.87
γ	Geminorum . . .	2	6	31	24.91	3.467	+ 16	29	30.1	2.79
α	Canis Majoris (<i>Sirius</i>) .	1	6	40	20.70	2.644	— 16	34	1.4	4.72
ϵ	Canis Majoris . . .	2	6	54	20.55	2.358	— 28	49	27.3	4.72
δ	Canis Majoris . . .	2	7	3	57.55	+ 2.438	— 26	13	13.6	— 5.51

MEAN PLACES FOR THE BEGINNING OF 1891.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
δ Gemiuorum . . .	3	^h 7 ^m 13 ^s 36.81	+ 3.588	+ 22° 10' 56".7	- 6.35
β Canis Minoris . . .	3	7 21 14.41	3.260	+ 8 30 30.1	7.00
α^2 Geminorum (<i>Castor</i>) . . .	2	7 27 38.77	3.838	+ 32 7 37.6	7.56
α Canis Min. (<i>Procyon</i>) . . .	1	7 33 35.76	3.143	+ 5 30 13.8	9.00
β Geminorum (<i>Pollux</i>) . . .	1	7 38 38.78	3.679	+ 28 17 20.0	8.42
15 Argûs . . .	3	8 2 54.12	+ 2.554	- 23 59 25.5	- 10.30
30 Monocerotis . . .	4	8 20 12.82	3.000	- 3 33 4.2	11.51
ϵ Hydræ . . .	3	8 41 0.25	3.182	+ 6 49 5.9	13.01
ϵ Ursæ Majoris . . .	3	8 51 44.60	4.133	+ 48 28 8.8	13.91
β Argûs . . .	2	9 12 0.09	0.677	- 69 16 5.6	14.81
ϵ Argûs . . .	2	9 14 10.18	+ 1.601	- 58 49 3.6	- 15.00
α Hydræ . . .	2	9 22 13.87	2.949	- 8 11 11.3	15.46
θ Ursæ Majoris . . .	3	9 25 33.84	4.040	+ 52 10 25.1	16.22
ϵ Leonis . . .	3	9 39 39.85	3.415	+ 24 16 32.9	16.43
α Leonis (<i>Regulus</i>) . . .	1	10 2 34.03	3.200	+ 12 29 58.9	17.48
γ^1 Leonis . . .	2	10 13 57.78	+ 3.315	+ 20 23 33.7	- 18.09
ρ Leonis . . .	4	10 27 4.35	3.164	+ 9 52 2.1	18.44
46 Leonis Minoris . . .	4	10 47 12.93	3.369	+ 34 48 9.2	19.30
α Ursæ Majoris . . .	2	10 56 59.89	3.746	+ 62 20 21.6	19.37
δ Leonis . . .	2	11 8 18.70	3.198	+ 21 7 14.7	19.69
δ Crateris . . .	3	11 13 53.49	+ 2.996	- 14 11 20.1	- 19.47
λ Draconis . . .	3	11 24 55.62	3.620	+ 69 55 57.3	19.84
β Leonis . . .	2	11 43 30.00	3.064	+ 15 10 52.7	20.12
γ Ursæ Majoris . . .	2	11 48 5.84	3.181	+ 54 18 2.4	20.03
ϵ Corvi . . .	3	12 4 31.12	3.083	- 22 0 48.6	20.05
γ Corvi . . .	2	12 10 12.05	+ 3.080	- 16 56 12.2	- 20.02
η Virginis . . .	3	12 14 19.77	3.069	- 0 3 40.0	20.04
α^1 Crucis . . .	1	12 20 32.32	3.296	- 62 29 41.7	20.01
δ^2 Corvi . . .	2	12 24 13.59	3.103	- 15 54 30.1	20.08
β Corvi . . .	2	12 28 39.69	3.142	- 22 47 38.2	19.96
γ Virginis . . .	3	12 36 8.25	+ 3.038	- 0 51 6.2	- 19.81
α Canum Venaticorum . . .	3	12 50 55.78	2.815	+ 38 54 25.4	19.51
ϵ Virginis . . .	3	12 56 45.09	2.988	+ 11 32 42.2	19.42
α Virginis (<i>Spica</i>) . . .	1	13 19 27.02	3.154	- 10 35 32.3	18.90
ζ Virginis . . .	3	13 29 8.33	3.053	- 0 2 18.4	18.52
η Ursæ Majoris . . .	2	13 43 14.78	+ 2.371	+ 49 51 26.4	- 18.08
η Bootis . . .	3	13 49 29.69	2.857	+ 18 56 39.5	18.17
β Centauri . . .	1	13 56 7.83	4.179	- 59 50 48.9	17.59
α Draconis . . .	3	14 1 26.35	1.624	+ 64 53 48.4	17.30
α Bootis (<i>Arcturus</i>) . . .	1	14 10 41.39	2.735	+ 19 45 0.2	18.88
α^2 Centauri . . .	1	14 32 13.09	+ 4.047	- 60 23 18.0	- 15.37
ϵ Bootis . . .	2	14 40 13.66	2.621	+ 27 32 2.1	15.34
α^2 Libræ . . .	2	14 44 50.87	+ 3.310	- 15 35 18.7	15.16
β Ursæ Minoris . . .	2	14 51 1.60	- 0.229	+ 74 36 3.3	14.72
β Bootis . . .	3	14 57 50.44	+ 2.260	+ 40 49 14.2	14.36
δ Bootis . . .	3	15 11 6.55	+ 2.421	+ 33 43 18.6	- 13.58
β Libræ . . .	2	15 11 8.48	+ 3.222	- 8 58 49.5	13.50
γ^2 Ursæ Minoris . . .	3	15 20 54.28	- 0.132	+ 72 13 18.6	12.81
α Coronæ Borealis . . .	2	15 30 4.39	+ 2.539	+ 27 4 54.3	12.30
α Serpentis . . .	2	15 38 53.94	+ 2.952	+ 6 46 7.7	- 11.55

MEAN PLACES FOR THE BEGINNING OF 1891.

Name of Star.	Magni- tude.	Right Ascension.			Annual Variation.	Declination.			Annual Variation.
		h	m	s		°	'	"	
ϵ Serpentis	3	15	45	22.96	+ 2.987	+ 4	48	22.4	— 11.04
δ Scorpii	2	15	53	53.30	3.539	— 22	18	39.6	10.52
β^1 Scorpii	2	15	59	5.95	3.481	— 19	30	24.0	10.13
δ Ophiuchi	3	16	8	38.00	3.140	— 3	24	47.6	9.51
τ Herculis	3	16	16	27.89	1.801	+ 46	34	22.8	8.73
η Draconis	3	16	22	31.06	+ 0.807	+ 61	45	39.4	— 8.22
α Scorpii (<i>Antares</i>). . . .	1	16	22	43.44	3.670	— 26	11	22.5	8.30
β Herculis	2	16	25	32.05	2.578	+ 21	43	38.9	8.05
ζ Ophiuchi	3	16	31	9.40	3.299	— 10	20	45.1	7.56
α Trianguli Australis	2	16	37	7.68	6.305	— 68	49	34.8	7.14
κ Ophiuchi	3	16	52	30.54	+ 2.838	+ 9	32	41.7	— 5.83
η Ophiuchi	3	17	4	7.58	3.436	— 15	35	22.1	4.76
π Herculis	3	17	11	15.06	2.089	+ 36	55	56.0	4.22
θ Ophiuchi	3	17	15	18.90	3.679	— 24	53	24.9	3.94
β Draconis	3	17	27	58.22	1.354	+ 52	22	55.6	2.79
α Ophiuchi	2	17	29	52.48	+ 2.783	+ 12	38	23.1	— 2.86
μ Herculis	3	17	42	11.58	2.346	+ 27	47	4.7	2.32
γ Draconis	2	17	54	4.50	1.392	+ 51	30	6.4	— 0.55
η Serpentis	3	18	15	40.18	3.102	— 2	55	35.0	+ 0.70
λ Sagittarii	3	18	21	14.62	3.703	— 25	28	53.6	1.63
α Lyrae (<i>Vega</i>)	1	18	33	14.90	+ 2.031	+ 38	40	56.5	+ 3.17
σ Sagittarii	2	18	48	30.39	3.722	— 26	25	53.5	4.14
ζ Aquilæ	3	19	0	24.02	2.757	+ 13	42	6.4	5.12
δ Draconis	3	19	12	31.77	0.029	+ 67	28	11.3	6.33
β Cygni	3	19	26	19.54	2.419	+ 27	43	51.6	7.37
γ Aquilæ	3	19	41	4.66	+ 2.852	+ 10	20	52.6	+ 8.55
δ Cygni	3	19	41	34.12	1.876	+ 44	51	53.4	8.64
α Aquilæ (<i>Altair</i>)	1	19	45	27.92	2.928	+ 8	34	50.7	9.28
θ Aquilæ	3	20	5	40.82	3.097	— 1	8	40.2	10.46
α^2 Capricorni	3	20	12	0.41	3.332	— 12	52	56.2	10.92
α Pavonis	2	20	17	1.76	+ 4.783	— 57	5	0.7	+ 11.20
γ Cygni	2	20	18	19.09	2.154	+ 39	54	28.5	11.37
β Pavonis	3	20	35	7.92	5.472	— 66	35	38.2	12.54
α Cygni	2	20	37	42.98	2.044	+ 44	53	27.3	12.73
ϵ Cygni	3	20	41	48.07	2.428	+ 33	33	43.4	13.34
ν Cygni	4	20	53	6.56	+ 2.234	+ 40	44	51.6	+ 13.73
ζ Cygni	3	21	8	17.80	2.550	+ 29	46	47.8	14.61
α Cephei	3	21	15	58.69	1.436	+ 62	7	25.6	15.18
β Aquarii	3	21	25	49.26	3.162	— 6	3	1.8	15.67
β Cephei	3	21	27	15.10	0.794	+ 70	4	55.8	15.76
ϵ Pegasi	2	21	38	49.97	+ 2.947	+ 9	22	31.6	+ 16.36
α Aquarii	3	22	0	11.13	3.083	— 0	50	57.2	17.36
α Gruis	2	22	1	21.70	3.805	— 47	29	18.5	17.25
γ Aquarii	3	22	16	1.56	3.101	— 1	56	11.3	18.04
ζ Pegasi	3	22	36	1.56	2.991	+ 10	15	44.9	18.71
ι Cephei	3	22	45	47.92	+ 2.122	+ 65	37	37.5	+ 18.88
α Pis. Aus. (<i>Fomalhaut</i>)	1	22	51	37.61	3.324	— 30	11	59.3	19.00
α Pegasi (<i>Markab</i>). . . .	2	22	59	19.88	2.985	+ 14	37	7.7	19.30
λ Andromedæ	4	23	32	13.79	2.923	+ 45	52	2.5	19.47
ω Piscium	4	23	53	42.85	+ 3.078	+ 6	15	35.4	+ 19.93

ECLIPSES IN 1891.

In the year 1891 there will be four eclipses, two of the sun and two of the moon, and a Transit of Mercury over the Sun's Disk.

I.—*A Total Eclipse of the Moon*, 1891, May 23, invisible at Washington, but visible generally throughout the western part of the Pacific Ocean, Australia, Asia, Africa and Europe.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, May 23 ^d 6 ^h 18 ^m 53.7 ^s

Sun's right ascension	^h 4 ^m 0 ^s 49.54	Hourly motion	10.06
Moon's right ascension	16 0 49.54	Hourly motion	133.91
Sun's declination	20° 37' 56.2" N.	Hourly motion	0' 28.5" N.
Moon's declination	20 20 12.7 S.	Hourly motion	9 24.1 S.
Sun's equa. hor. parallax	8.5	Sun's true semidiameter	15 47.5
Moon's equa. hor. parallax	56 47.1	Moon's true semidiameter	15 27.7

TIMES OF THE PHASES.

	May	^d 23 ^h 3 ^m 36.1	} Greenwich Mean Time.
Moon enters penumbra		23 3 36.1	
Moon enters shadow		23 4 41.3	
Total eclipse begins		23 5 49.3	
Middle of the eclipse		23 6 29.2	
Total eclipse ends		23 7 9.1	
Moon leaves shadow		23 8 17.3	
Moon leaves penumbra		23 9 23.0	

CIRCUMSTANCES OF THE ECLIPSE.

Contacts of Shadow with moon's limb.	Angles of position from north point.	The moon being in the zenith in longitude from Greenwich and in latitude.	
First	125° to E.	107° 58' E.	20° 5' S.
Last	90 to W.	55 49 E.	20 39 S.

Magnitude of the eclipse = 1.306, (moon's diameter = 1).

II.—*An Annular Eclipse of the Sun*, 1891, June 6, invisible at Washington.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, June 6 ^d 4 ^h 37 ^m 58.6 ^s

Sun and moon's R. A.	^h 4 ^m 57 ^s 37.39	Hourly motions	10.31 and 143.97
Sun's declination	22° 40' 47.4" N.	Hourly motion	0' 15.4" N.
Moon's declination	23 37 57.8 N.	Hourly motion	6 36.3 N.
Sun's equa. hor. parallax	8.4	Sun's true semidiameter	15 45.5
Moon's equa. hor. parallax	57 32.1	Moon's true semidiameter	15 39.9

CIRCUMSTANCES OF THE ECLIPSE.

	Greenwich Mean Time.	Longitude from Greenwich.	Latitude.
Eclipse begins	June ^d 6 ^h 2 ^m 3.3	132° 32.0' W.	25° 8.3' N.
Central eclipse begins	6 3 52.6	170 19.5 E.	57 34.5 N.
Central eclipse at noon	6 4 38.0	110 6.6 E.	69 50.2 N.
Central eclipse ends	6 4 38.5	109 17.6 E.	67 19.3 N.
Eclipse ends	6 6 27.8	18 7.2 E.	45 48.7 N.

III.—*A Total Eclipse of the Moon*, 1891, November 15, visible at Washington, and generally visible in Asia, Africa, Europe, the Atlantic Ocean, North and South America, and the eastern part of the Pacific Ocean.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, November				d	h	m	s
				15	12	8	44.8
Sun's right ascension	15	^h 23 ^m 54.99 ^s		Hourly motion	10.29 ^s		
Moon's right ascension	3	23 54.99		Hourly motion	145.10		
Sun's declination	18°	37' 41".1 S.		Hourly motion	0' 37".9 S.		
Moon's declination	18	21 5.5 N.		Hourly motion	12 23.6 N.		
Sun's equa. hor. parallax	8.7			Sun's true semidiameter	16 10.9		
Moon's equa. hor. parallax	60	3.2		Moon's true semidiameter	16 21.1		

TIMES OF THE PHASES.

	d	h	m	} Greenwich Mean Time.
Moon enters penumbra	November	15	9	35.9
Moon enters shadow		15	10	35.0
Total eclipse begins		15	11	37.0
Middle of the eclipse		15	12	18.8
Total eclipse ends		15	13	0.7
Moon leaves shadow		15	14	3.0
Moon leaves penumbra		15	15	2.6

CIRCUMSTANCES OF THE ECLIPSE.

Contacts of Shadow with moon's limb.	Angles of position from north point.	The moon being in the zenith in longitude from Greenwich and in latitude.	
First	55° to E.	16° 34' E.	18° 2' N.
Last	95 to W.	33 32 W.	18 43 N.

Magnitude of the eclipse = 1.393, (moon's diameter = 1).

IV.—*A Partial Eclipse of the Sun*, 1891, November 30—December 1, invisible at Washington.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, 1891, December				d	h	m	s
				1	0	7	46.9
Sun and moon's R. A.	16	29	22.94	Hourly motions		10.80	and 134.25
Sun's declination	21	49'	15.7" S.	Hourly motion		0'	23.3" S.
Moon's declination	23	1	22.9 S.	Hourly motion		7	40.7 S.
Sun's equa. hor. parallax	8.7			Sun's true semidiameter		16	13.7
Moon's equa. hor. parallax	55	56.9		Moon's true semidiameter		15	14.0

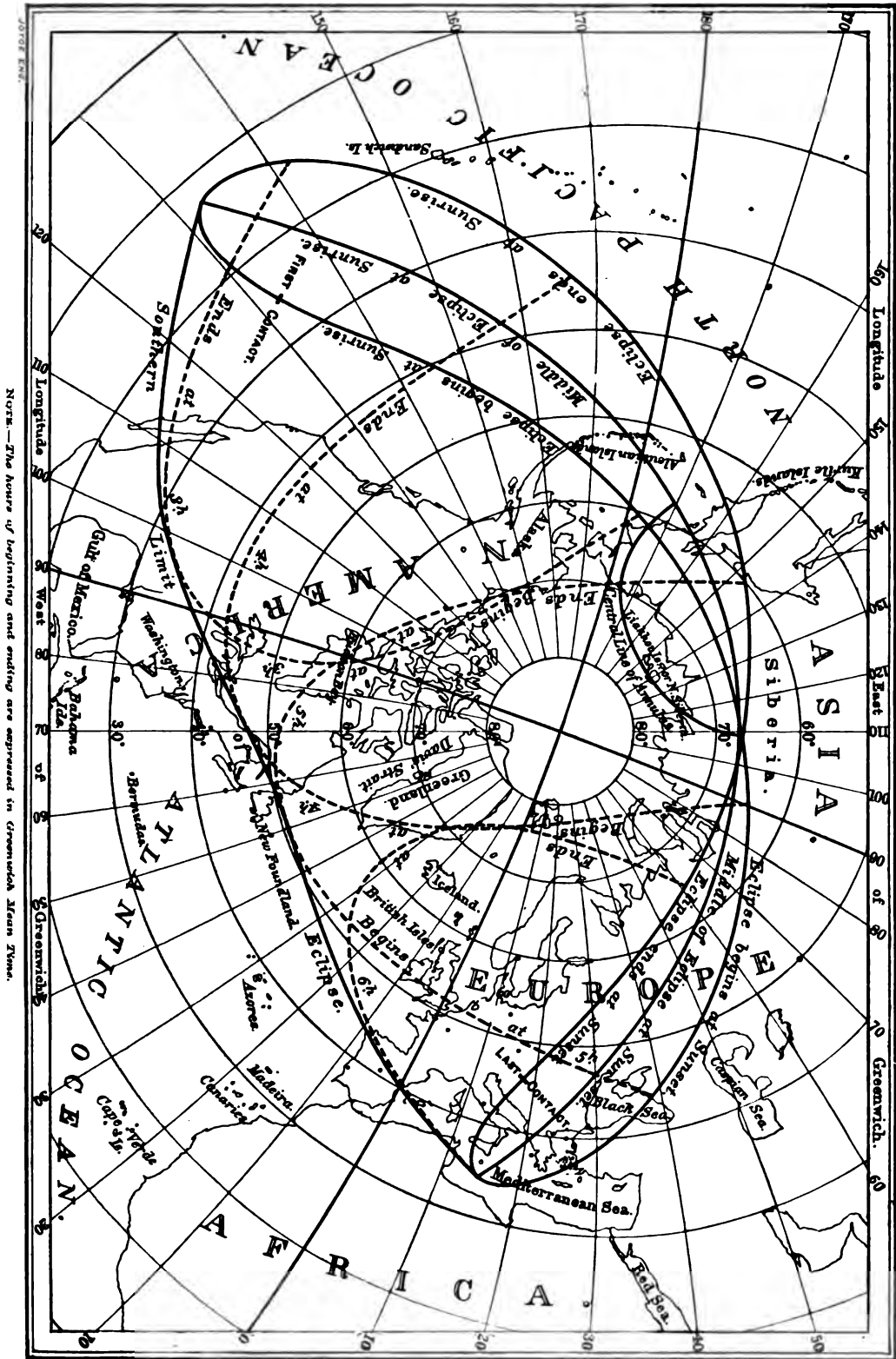
CIRCUMSTANCES OF THE ECLIPSE.

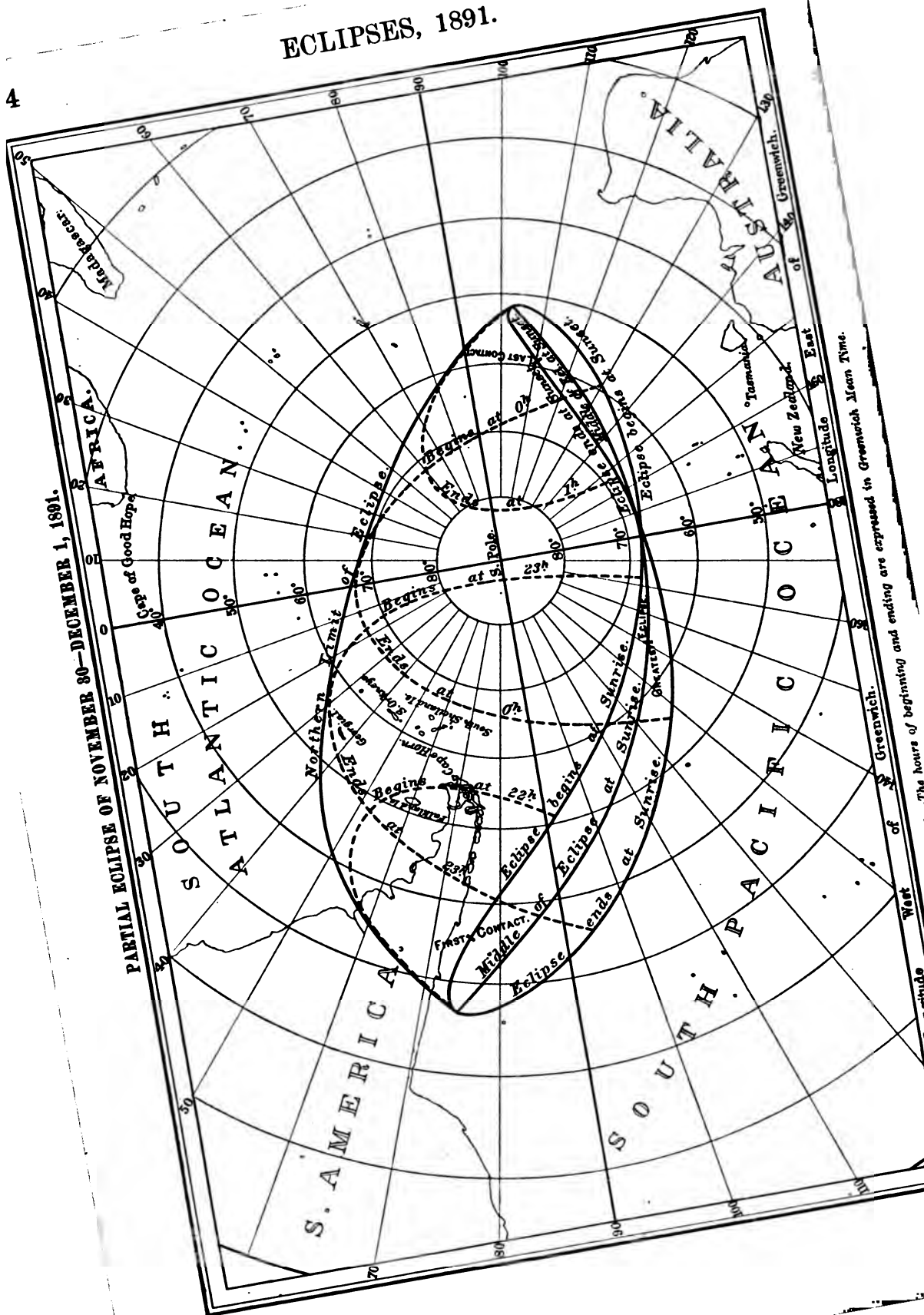
		d	h	m	Longitude from Greenwich.	Latitude.
Eclipse begins	November	30	21	44.3	75° 31.5 W.	35° 45.0 S.
Greatest eclipse		30	23	31.2	141 0.9 W.	64 6.5 S.
Eclipse ends	December	1	1	17.8	110 7.6 E.	59 14.0 S.

Magnitude of greatest eclipse = 0.531, (sun's diameter = 1).

The regions within which the eclipses of the sun are visible, are laid down on the accompanying charts, from which, by means of the dotted lines, the Greenwich times of beginning and ending, within fifteen or twenty minutes, may also be found.

ANNUAL ECLIPSE OF JUNE 6, 1891.





A Transit of Mercury over the Sun's Disk, May 9, partly visible at Washington, and visible throughout the western portion of North and South America.

ELEMENTS OF THE TRANSIT.

Greenwich mean time of δ in right ascension, May 9 15 57 22. ^s			
Sun and Mercury's R. A.	^h 3 ^m 6 ^s 57.16	Hourly motions	+ 2' 26".20 and - 1' 18".5
Sun's declination	+ 17° 32' 1".3	Hourly motion	+ 31".56
Mercury's declination	+ 17 18 1.6	Hourly motion	- 66.65
Sun's equa. hor. parallax	8.75	True semidiameter	15' 52".3
Mercury's equa. hor. parallax	15.86	True semidiameter	6.0

TIMES OF THE PHASES.

Ingress, exterior contact	May ^d 9 ^h 11 ^m 55 ^s 29.3	} Greenwich Mean Time.
Ingress, interior contact	9 12 0 25.0	
Least distance of centres 12' 32".4	9 14 23 54.5	
Egress, interior contact	9 16 47 2.3	
Egress, exterior contact	9 16 52 45.7	

CIRCUMSTANCES OF THE TRANSIT.

Exterior contacts.	Angles of position from north point.	The sun being in the zenith in longitude from Greenwich and in latitude.	
Ingress	115° 31' E.	179° 48' W.	17° 36' N.
Egress	168 15 W.	105 53 E.	17 30 N.

The Washington mean time of exterior contact at Ingress and Egress for any point on the surface of the earth, may be computed from the following formulæ, in which ρ denotes the radius of the earth at the place, φ the geocentric north latitude and ω the longitude west from Washington.

$$\begin{aligned} \text{Ingress, } T'' &= 6^{\text{h}} 47^{\text{m}} 17.26^{\text{s}} + 71.66 \rho \sin \varphi - 157.88 \rho \cos \varphi \cos (20^{\circ} 16' 55.5'' - \omega) \\ \text{Egress, } T''' &= 11^{\text{h}} 44^{\text{m}} 33.69^{\text{s}} - 162.30 \rho \sin \varphi + 60.75 \rho \cos \varphi \cos (212^{\circ} 37' 51.3'' - \omega) \end{aligned}$$

EXPLANATION

ON THE ARRANGEMENT AND USE OF THE AMERICAN NAUTICAL ALMANAC.

THE EPHEMERIS FOR THE MERIDIAN OF GREENWICH.

THIS portion of *The American Ephemeris and Nautical Almanac* is designed for the special use of navigators, and is adapted to the meridian of Greenwich. It contains the ephemerides of the sun and moon; the distances of the moon from the centres of the sun and the four most conspicuous planets, and from certain fixed stars; the ephemerides of the planets Mercury, Venus, Mars, Jupiter and Saturn, and the mean places of one hundred and fifty fixed stars for the beginning of the year 1891.

TIME.

Astronomers make use of several different kinds of time: mean solar time; true, or apparent solar time; and sidereal time.

Solar Time.—Solar time is that used for all the purposes of ordinary life, and is measured by the daily motion of the sun. A *Solar Day* is the interval of time between two successive transits of the sun over the same meridian; and the hour-angle of the sun is called *Solar Time*. This is the most natural and direct measure of time. But the intervals between the successive returns of the sun to the same meridian are not exactly equal, owing to the varying motion of the earth around the sun, and to the obliquity of the ecliptic. The intervals between the sun's transits over the meridian being unequal it is impossible to regulate a clock or chronometer so that it shall accurately follow the sun.

To avoid the irregularity which would arise from using the true sun as the measure of time, a fictitious sun, called the *Mean Sun*, is supposed to move in the equator with a uniform velocity. This mean sun is supposed to keep, on the average, as near the real sun as is consistent with perfect uniformity of motion; it is sometimes in advance of it, and sometimes behind it, the greatest deviation being about 16 minutes of time.

Mean Solar Time, which is perfectly equable in its increase, is measured by the motion of this mean sun. The clocks in ordinary use and the chronometers used by navigators are regulated to mean solar time.

True, or Apparent Solar Time is measured by the motion of the real sun.

The difference between apparent and mean time is called the *Equation of Time*. By means of it, we change apparent to mean time, or the reverse. Thus, if the apparent time be given, the mean time corresponding to it will be obtained by adding or subtracting the equation of time, according to the precept at the head of the column in which it is found, on page I of the Calendar for each month. If the mean time be given, the apparent time is obtained by applying the equation of time as directed by the precept on page II of the Calendar.

Sidereal Time.—Sidereal time is measured by the daily motion of the stars; or, as it is used by astronomers, by the daily motion of that point in the equator from which the true right ascension of the stars is counted. This point is the vernal equinox, and its hour-angle is called *Sidereal Time*. Astronomical clocks, regulated to sidereal time, are called sidereal clocks.

A *Sidereal Day* is the interval of time between the transit of the vernal equinox over the meridian, and its next succeeding return to the same meridian. It is about $3^m 56^s$ shorter than the mean solar day; $365\frac{1}{4}$ solar days, or a year, being divided into $366\frac{1}{4}$ sidereal days. It is divided into 24 hours. The sidereal hours are counted from 0 to 24, commencing with the instant of the passage of the true vernal equinox over the upper meridian, and ending with its return to the same meridian. About March 21st of each year the sidereal clock agrees with the mean time, or ordinary clock, and the former gains on the latter about $3^m 56^s$ per day, so that at the end of a year it will have gained an entire day, and will again agree with the mean time clock.

Day.—The *Civil Day*, according to the customs of society, commences at midnight, and comprises twenty-four hours from one midnight to the next following. The hours are counted from 0 to 12 from midnight to noon, after which they are again reckoned from 0 to 12 from noon to midnight. Thus the day is divided into two periods of 12 hours each, of which the first is marked A. M., and the last is marked P. M.

The *Astronomical Day* commences at noon on the civil day of the same date. It also comprises twenty-four hours, but they are reckoned from 0 to 24, and from the noon of one day to that of the next following. The astronomical as well as the civil time may be either apparent or mean, according as it is reckoned from apparent noon or from mean noon.

The civil day begins twelve hours before the astronomical day; therefore the first period of the civil day answers to the last part of the preceding astronomical day, and the last period of the civil day corresponds to the first part of the same astronomical day. Thus, January 9th, 2 o'clock, A. M., civil time, is January 8th, 14^h , astronomical time; and January 9th, 2 o'clock, P. M., civil time, is also January 9th, 2^h , astronomical time. The rule, then, for the transformation of civil time into astronomical time is this:—*If the civil time is marked A. M., take one from the day and add twelve to the hours, and the result is the astronomical time wanted; if the civil time is marked P. M., take away the designation P. M., and the astronomical time is had without further change.*

To change astronomical to civil time, we simply write P. M. after it, if it is less than 12 hours. If greater than 12 hours, we subtract 12 hours from it, add 1 to the days, and write A. M. For example, January 3d, 23 hours, astronomical time, is January 4th, 11 o'clock, A. M. civil time.

If the longitude from Greenwich be expressed in time, and, when *west*, added to the local time, or, when *east*, subtracted from the local time, the result is the corresponding Greenwich time. If the local mean time is used, the result is the Greenwich mean time, which ordinarily is that required for the use of this Ephemeris. The rule is the same, whether we use mean or sidereal time.

THE CALENDAR.

The Calendar is divided into twelve months, and to each month are assigned eighteen pages, the contents of which are as follow:—

Page I contains, for Greenwich apparent noon of each day, *The Sun's Apparent Right Ascension and Declination*, and the *Equation of Time*. Adjoining columns contain the differences of these quantities for one hour. By multiplying this difference by the hours and parts of an hour from Greenwich apparent noon, and adding the amount to, or subtracting it from the quantity at noon, according as that quantity is increasing or decreasing, we obtain the value of any quantity for any given Greenwich apparent time. The hourly differences are given for the instant of apparent noon at Greenwich, and, when greater accuracy is required, should be first interpolated for half the hours and parts of an hour of the Greenwich apparent time.

This page is chiefly used when the sun is observed on the meridian, and the local apparent time is $0^h 0^m 0^s$. The longitude from Greenwich expressed in time, if *west*, is at that instant the Greenwich apparent time, or time after Greenwich apparent noon; if *east*, it is time before

Greenwich apparent noon. The longitude of any place is therefore employed in reducing the quantities on this page to apparent noon at the place.

The right ascension of the sun thus reduced is the sidereal time of local apparent noon. The difference between it and the clock time of the meridian passage of the sun is the error of the clock on sidereal time.

The declination of the sun reduced to the meridian, or apparent noon, of the place, is required in finding the latitude from a meridian altitude of the sun.

As an example of the use of page I:—

Let the sun's declination be required at apparent noon, 1891, May 31, at a place whose longitude is $179^{\circ} 40'$, or $11^{\text{h}} 58^{\text{m}} 40^{\text{s}}$ east from Greenwich:

Local apparent time	May 31,	^h	^m	^s
Longitude from Greenwich (subtractive)		11	58	40
Greenwich apparent time	May 30,	12	1	20

Reducing the minutes and seconds to decimals of an hour, we find that this moment is $12^{\text{h}}.022$ after Greenwich apparent noon on May 30, or $11^{\text{h}}.978$ before Greenwich apparent noon on May 31.

On page 74 of the Ephemeris we find that the change of declination in one hour is

May 30, at Greenwich apparent noon	$22^{\circ}.33$
May 31, at Greenwich apparent noon	21.38
Difference for one day	0.95

If we want to be very exact, we find the amount of this hourly difference for the time which is half way between Greenwich noon and the time of observation; that is, for 6 hours after Greenwich noon of the 30th, this being half of 12 hours. Six hours is 0.25 of a day; so the calculation is as follows:—

Difference for one hour, May 30	$22^{\circ}.33$
Change for 0.25 of a day or $0^{\circ}.95 \times 0.25$	0.24
Difference at 6 hours after noon	22.09
$22^{\circ}.09 \times 12.022 = 265^{\circ}.6 = 4^{\circ} 25^{\circ}.6$	
Declination at Greenwich noon, May 30	N. $21^{\circ} 46' 27^{\circ}.6$
Change in 12.022 hours (additive)	$4 25.6$
Sun's declination at time of observation	N. $21 50 53.2$

When the time of observation is only a few hours before Greenwich noon, it may be better to count the longitude backward from this nearest noon. Thus, in the example just given, the time is $11^{\text{h}}.978$ before Greenwich noon of May 31; half this interval is about 0.25 of a day, and the hourly motion for the middle of the interval is $21^{\circ}.63$. Then, we find:—

Declination at Greenwich noon, May 31	N. $21^{\circ} 55' 12^{\circ}.3$
Product of $21^{\circ}.63 \times 11.978 = 259^{\circ}.1$ (subtractive)	$4 19.1$
Sun's declination at time of observation	N. $21 50 53.2$

It will always be well to make the calculation by both methods, as their agreement will show both to be right.

At sea it is ordinarily sufficient to have the declination to the nearest half minute, and the reduction may be found by Table V of BOWDITCH'S *American Practical Navigator*.

The equation of time, as has been before explained, is the number of minutes and seconds to be added to or subtracted from the apparent time, or the time given by an observation of the sun, to obtain the mean time. The heading of the column directs the manner in which the equation is to be applied. When there is a change in the course of the month from addition to subtraction or the reverse (as in the months of April and June), the two different directions are separated by a line, while a corresponding line below points out the dates between which the change takes place. The equation of time, as given on page I, is the mean time of apparent noon, or the hour-angle of the mean sun at that instant.

The Sun's Semidiameter and the *Sidereal Time of Semidiameter Passing Meridian* are also given on page I. The sun's semidiameter is used in reducing the altitude of the upper or lower limb of the sun to the altitude of the centre; and in reducing the angular distance of the limb from the moon or some other object, to the distance from the centre of the sun. The sidereal time of semidiameter passing the meridian is employed in obtaining the passage of the sun's centre over the wires of a transit-instrument, when the passage of one limb only has been observed. The quantity found in this column is to be added to the time of transit of the first, or western, limb; and to be subtracted from the time of transit of the second, or eastern, limb.

Page II contains, for Greenwich mean noon of each day, *The Sun's Apparent Right Ascension*, and *Declination*, the *Equation of Time*, and the *Sidereal Time of Mean Noon*. The hourly changes of these quantities are also given, and may be used in reducing them to any Greenwich mean time. The hourly changes may be first interpolated for half the Greenwich time, when great precision is required, in the way described in explaining the calculation of the declination.

The right ascension and declination on pages I and II are affected by aberration, and therefore denote the *apparent* position of the *true* sun. Page II is more conveniently used when the mean time is known. This is the case in most observations of the sun out of the meridian, when the times have been noted by a clock or chronometer regulated to mean time. The quantities on this page can be reduced to mean noon of any place by interpolating for the longitude, as in the example of the sun's declination on the preceding page.

The sun's declination is required for finding the latitude of the place, the local time, and the sun's azimuth and amplitude, from observations of the sun.

The equation of time is needed in finding the mean time from observations of the sun, and the latitude from observations out of the meridian. The heading of the column directs the manner in which it is to be applied to mean time to obtain the apparent time.

The equation of time, as given on page II, is the apparent time of mean noon; and is equivalent to the hour-angle of the true sun at the instant of mean noon.

The sidereal time of mean noon is also the right ascension of the mean sun at Greenwich mean noon. It may be reduced for the longitude, or to any Greenwich mean time, by using the hourly difference, $9^{\text{s}}.8565$; or by Table III, appended to this volume, for reducing intervals of mean solar to sidereal time. Table LI of BOWDITCH's *Navigator* may be used for the same purpose when only the nearest quarter of a second is required.

The sun's right ascension and the sidereal time of mean noon, or right ascension of the mean sun, are useful in converting mean time to sidereal time. We first find the Greenwich mean time, then the R. A. of the mean sun for this time, as last explained: this being added to the local mean time will give the sidereal time.

The sidereal time of mean noon, reduced for the longitude of the place, is also used in converting sidereal time to mean time. Subtracting the reduced value from the given sidereal time, gives the interval of sidereal time from noon. Subtracting from this the corresponding reduction of a sidereal interval to a mean time interval, in Table II, appended to this volume, or Table LII of BOWDITCH's *Navigator*, will give the mean time required. This reduction may also be found by multiplying $9^{\text{s}}.8296$ by the hours and parts of an hour of the given sidereal time.

As examples of the use of page II:—

1.—Let the sun's right ascension and the equation of time be required for 1891, May 15, $9^{\text{h}} 2^{\text{m}} 30^{\text{s}}$, A. M., mean time, at a place whose longitude is $100^{\circ} 10'$, or $6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$, west of Greenwich.

Local astronomical mean time	.	.	.	May 14,	$21^{\text{h}} 2^{\text{m}} 30^{\text{s}}$
Longitude from Greenwich (additive)	.	.	.	.	$6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$
Greenwich mean time.	.	.	.	May 15,	$3^{\text{h}} 43^{\text{m}} 10^{\text{s}} = 3^{\text{h}}.7194$

<i>Sun's Right Ascension.</i>		<i>Equation of Time.</i>	
May 15, Greenwich noon	$\begin{smallmatrix} h & m & s \\ 3 & 27 & 53.30 \end{smallmatrix}$	May 15, noon	$\begin{smallmatrix} h & m & s \\ 3 & 48.99 & \text{(additive)} \end{smallmatrix}$
H. D. $9^{\circ}.872 \times 3.7194$	$\begin{smallmatrix} + & 0 & 36.72 \end{smallmatrix}$	H. D. $-0^{\circ}.015 \times 3.72$	$\begin{smallmatrix} - & 0.06 \end{smallmatrix}$
	$\begin{smallmatrix} 3 & 28 & 30.02 \end{smallmatrix}$		$\begin{smallmatrix} 3 & 48.93 \end{smallmatrix}$

In this case, the hourly differences interpolated to half the interval, or $1^h.9$ after noon, have been used.

The equation of time in this example is additive to mean time. Its reduction could also have been found by Table VI, A., of Bowditch's *Navigator*, but to seconds only.

2.—If the sidereal time is required for the same date and time, we have:—

May 15, Sidereal Time (at Greenwich mean noon)	$\begin{smallmatrix} h & m & s \\ 3 & 31 & 42.29 \end{smallmatrix}$
Hourly difference $9^{\circ}.8565 \times 3.7194$	$\begin{smallmatrix} + & 0 & 36.66 \end{smallmatrix}$
Add the local astronomical mean time	$\begin{smallmatrix} 21 & 2 & 30.00 \end{smallmatrix}$
The required sidereal time is (rejecting 24^h)	$\begin{smallmatrix} 0 & 34 & 48.95 \end{smallmatrix}$

The reduction $0^m 36^s.66$ could have been found in Table III corresponding to the Greenwich mean time $3^h 43^m 10^s$. Also, by Table LI of Bowditch's *Navigator*, the reduction is $0^m 36^s.7$.

3.—On 1891, May 15, A. M., at a place whose longitude is $100^{\circ} 10' W.$, suppose the sidereal time to be $0^h 36^m 37^s.16$, and that the corresponding mean time is required.

The astronomical day is May 14; the longitude in time, $+6^h 40^m 40^s$, or $+6^h.678$.

May 14, Sidereal Time (at Greenwich mean noon)	$\begin{smallmatrix} h & m & s \\ 3 & 27 & 45.73 \end{smallmatrix}$
The H. D. $9^{\circ}.8565 \times 6.678$, or the reduction for $6^h 40^m 40^s$ in Table III	$\begin{smallmatrix} + & 1 & 5.82 \end{smallmatrix}$
The sidereal time of local mean noon	$\begin{smallmatrix} 3 & 28 & 51.55 \end{smallmatrix}$
The given sidereal time ($+24^h$, if necessary for the following subtraction)	$\begin{smallmatrix} 24 & 36 & 37.16 \end{smallmatrix}$
Subtracting the first from the second gives the sidereal interval from noon	$\begin{smallmatrix} 21 & 7 & 45.61 = 21^h.12934 \end{smallmatrix}$
$-9^{\circ}.8296 \times 21.12934$, or the reduction for $21^h 7^m 45^s.61$ in Table II	$\begin{smallmatrix} - & 3 & 27.71 \end{smallmatrix}$
The required astronomical mean time is	May 14, $\begin{smallmatrix} 21 & 4 & 17.90 \end{smallmatrix}$

Page III contains, for Greenwich mean noon of each day, *The Sun's True Longitude* and *Latitude*, and the *Logarithm of the Radius Vector of the Earth*. The longitudes of the sun are the true longitudes, not corrected for aberration. The longitude is given in two columns, headed λ and λ' ; λ representing the sun's longitude counted from the true equinox of the date; and λ' , the same co-ordinate counted from the mean equinox of the beginning of the year, (January $0^d.0$). A column of hourly differences enables the computer to obtain the sun's longitude for any hour from noon. The hourly differences of the logarithm of the radius vector are likewise given. The latitude is referred to the ecliptic of the date.

The last column on page III contains the *Mean Time of Sidereal Noon*; that is, the number of hours, minutes and seconds after Greenwich mean noon when the first point of Aries passes the meridian of Greenwich. It may be reduced to any meridian by interpolating for the longitude, or to any Greenwich sidereal time by means of the hourly difference, $-9^{\circ}.8296$. The reduction, however, can be taken directly from Table II for reducing intervals of sidereal time to mean solar time; or, approximately, from Table LII of Bowditch's *Navigator*.

This column may be used in converting sidereal time to mean time instead of that on page II. As an illustration, let us take Example 3, above.

It is seen in advance that the sum of the mean time of sidereal noon and the given sidereal time is less than 24 hours. Were it more than 24 hours, the mean time of sidereal noon should be taken out for May 13, that is the preceding astronomical day.

May 14, the mean time of Greenwich sidereal noon is	$\begin{smallmatrix} h & m & s \\ 20 & 28 & 52.39 \end{smallmatrix}$
The H. D. $-9^{\circ}.8296 \times 6.678$, or the reduction for long., Table II	$\begin{smallmatrix} - & 1 & 5.64 \end{smallmatrix}$
The mean time of local sidereal noon	$\begin{smallmatrix} 20 & 27 & 46.75 \end{smallmatrix}$
Add the given sidereal time	$\begin{smallmatrix} 0 & 36 & 37.16 = 0^h.6103 \end{smallmatrix}$
The sum is	$\begin{smallmatrix} 21 & 4 & 23.91 \end{smallmatrix}$
$-9^{\circ}.8296 \times 0.6103$, or the reduction for $0^h 36^m 37^s.2$ in Table II	$\begin{smallmatrix} - & 0 & 6.00 \end{smallmatrix}$
The required astronomical mean time	May 14, $\begin{smallmatrix} 21 & 4 & 17.91 \end{smallmatrix}$

Page IV contains *The Moon's Semidiameter* and *Equatorial Horizontal Parallax*, for each mean noon and midnight at Greenwich. Columns adjoining those of the horizontal parallax give the change of this quantity in one hour, by means of which it can be reduced to any other Greenwich mean time, in the same way as the sun's declination and the equation of time in the preceding examples. The sign plus or minus prefixed to the hourly differences, shows whether the horizontal parallax is increasing or decreasing.

The reduction of the moon's semidiameter may be readily found by multiplying the reduction of the horizontal parallax by 0.272. It may also be obtained from Table XI of BOWDITCH'S *Navigator*, or by simply computing the proportional part.

If, for example, the semidiameter of the moon is to be taken out for 1891, May 21, 10^h, P. M., Greenwich mean time, we see that the difference of the semidiameters at noon and midnight of May 21 is 4".4; then,

$$12^h : 10^h = 4''.4 : 3''.7,$$

which is the correction to be added to the semidiameter at noon, because the semidiameter is increasing.

The moon's semidiameter then, for May 21, 10^h, is 15' 9".3 + 3".7, or 15' 13".0.

The moon's semidiameter and horizontal parallax are required for all observations of the moon. When great precision is needed, the hourly differences should be first interpolated for half the interval of Greenwich time from noon or midnight, and a correction applied to the horizontal parallax for the latitude of the place of observation.

The *Mean Time of the Moon's Upper Transit at Greenwich*, which is given on page IV to tenths of a minute, is also accompanied with a column of differences for one hour of longitude, by means of which, having the longitude converted into time, the local time of the moon's meridian passage at any other place, may be computed. The reduction may be taken by simple inspection from BOWDITCH'S Table XXVIII. The last column of this page contains the *Age of the moon*, or the time elapsed since the preceding new moon, to tenths of a day.

Pages V—XII contain *The Moon's Right Ascension*, and *Declination*, for each day and hour of Greenwich mean time. They are accompanied with columns of differences for one minute, which are also given at each hour. The Greenwich mean time, which is required for taking out these quantities, may be taken from a well-regulated chronometer, or obtained by applying the longitude converted into time, to the local mean time of the observer. The right ascension or declination is taken out for the day and hour of the Greenwich mean time; the *Diff. for 1 Minute* multiplied by the minutes and parts of a minute of the Greenwich time, and the product added to, or subtracted from the quantity, according as the quantity is increasing or decreasing.

Thus, suppose the moon's right ascension and declination are required for 1891, May 1, 10^h 10^m 30^s, astronomical mean time at Greenwich:—

	<i>Right Ascension.</i>			<i>Declination.</i>		
May 1, 10 ^h	^h	^m	^s			
	21	18	46.03		S. 20° 50' 45".9	
Diff. 2".4162 × 10.5	= + 25.37			9".682 × 10.5 =	+ 1 41.7	
May 1, 10 ^h 10 ^m 30 ^s	21	19	11.40		S. 20 49 4.2	

The differences interpolated for 5^m.2 = 0^h.09 are, for the right ascension 2".4146, and for the declination 9".739, which may be used for greater precision.

Page XII contains also the *Phases of the Moon* and the dates of the *Moon's Perigee and Apogee*, or least and greatest distances from the earth.

Pages XIII—XVIII contain the *Lunar Distances*, or the angular distances of the centre of the moon from the centre of the sun, and from the four larger planets and certain fixed stars, as they would appear to an observer at the centre of the earth. They are given for every third hour of Greenwich mean time, beginning at noon; the dates are therefore astronomical. All the distances that can be observed on the same day, are grouped together under that date; and the columns are read from left to right, across both pages of the same opening. The letter W. or E. is affixed to the name of the sun, planet or star, to indicate that it is on the west, or east side of the moon.

An observer on the earth's surface having measured a lunar distance, corrected it for errors of his instrument and for the semidiameter of the objects, and cleared it from the effects of refraction and parallax, finds the true or geocentric distance, that is, the distance as it would have appeared from the centre of the earth at the moment of observation. With this distance and the distances in the Ephemeris of the same bodies on the same day, the Greenwich mean time of the observation can be found.

To lessen the labor of computation, there is given in the Ephemeris, between every two successive distances, the logarithm of the seconds of time in which the distance changes 1"; or, as it is usually called, the *Proportional Logarithm of the Difference*. It is given for the middle instant of the two hours between which it is placed.

For computing the Greenwich time we have the following rule:—

Find in the Almanac the two distances between which the true distance falls; take out the nearer of these, the hours of Greenwich time over it, and the P. L. of Diff. between them.

Find the difference between the true distance and the distance taken from the Almanac; and from the proportional logarithm of this difference, as found in the Navigator, subtract the P. L. of Diff. taken from the Almanac.

The result is the proportional logarithm of an interval of time to be added to the hours of Greenwich time, taken from the Almanac, when the earlier Almanac-distance is used; to be subtracted from the hours of Greenwich time, when the later Almanac-distance is used.

Another method is, to add the common logarithm of the difference of the true and the Almanac-distances to the P. L. of Diff. of the Almanac; the sum will be the common logarithm of the correction to be applied to the hours of Greenwich time. The Table of *Logarithms of small Arcs in Space or Time*, given at the end of the volume for 1871, saves the operation of reducing degrees (or hours) and minutes to seconds, and the reverse.

As the P. L. of Diff. in the Ephemeris varies, the Greenwich time found by the methods just described may not be sufficiently exact. To correct it for such variation, or second difference, take the difference between the P. L. of Diff. used and the one which follows it in the Ephemeris, (or, more strictly, half the difference of the preceding and following ones). With this difference, and the first correction of the Greenwich time already found, enter Table I, appended to this volume, and take out the corresponding seconds, which are to be added to the approximate Greenwich time when the Prop. Logs. in the Ephemeris are decreasing; and subtracted when they are increasing.

Thus the Greenwich mean time of the observation can be obtained. If the observer has noted the time of observation by a chronometer, the difference of this chronometer-time and the Greenwich mean time will be the error of the chronometer on Greenwich time as found from the lunar distance. In this way lunar distances can be used as a check upon the chronometer. By a series of carefully observed lunar distances on both sides of the moon, the chronometer-error may generally be ascertained within 20 or 30 seconds.

If the observer has found the local mean time of observation from the observed altitude of one of the bodies, or by a watch regulated to that time by recent observations and corrected for change of longitude in the interval, the difference of this local time and the Greenwich time found from the lunar distance will be his longitude. A longitude derived by this method should always be considered as uncertain by 5' or more.

As an example of finding the Greenwich mean time from a lunar distance, suppose that in 1891, May 12, the corrected distance of the moon's centre from that of Regulus is $40^{\circ} 3' 0''$:—

Corrected distance	$40^{\circ} 3' 0''$	
Distance in Ephemeris May 12, VI ^h	$40 57 39$	P. L. 0.2843
Difference	$0 54 39$	P. L. 0.5177
		P. L. 0.2334
Time from VI ^h (after)	$+1^{\text{h}} 45^{\text{m}} 10^{\text{s}}$	
Corr. for 2d Diff., Table I	5	
Greenwich mean time May 12.	$7 45 5$	

By a table of common logarithms, or a table of logarithms of small arcs, the reduction of the Greenwich time would be found thus:—

From Ephemeris	P. L.	0.2843
Diff. of distances, $54' 39'' = 3279''$	log	3.5157
Red. of Greenwich time, $6310^s = 1^h 45^m 10^s$	log	3.8600

The result is the same as by the previous method.

Planetary Ephemerides.—Pages 218—247 contain the geocentric ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn. The ephemeris of each consists of its *Apparent Right Ascension* and *Declination*, with the *Variation for 1 Hour*, for Greenwich mean noon of each day; the *Mean Time of Meridian Passage*; and at the bottom of the page, its *Semi-diameter* and *Horizontal Parallax*.

The right ascension and declination of a planet are required whenever it is observed for time, latitude or azimuth. The mode of reducing them to any instant of Greenwich mean time is the same as in the examples of the sun, previously given. The mean time of passage across any meridian can be found by dividing the daily difference by 24, and using the hourly difference thus obtained, as in the case of the moon; or, the reduction can be found by the proportion: As 24^h (or 360°) is to the longitude, so is the daily difference to the reduction required.

Positions of Fixed Stars.—Pages 248—250 contain the *Mean Places*, with their *Annual Variations*, of one hundred and fifty fixed stars for the beginning of the year 1891. The sign + indicates north declinations; the sign — indicates south declinations.

The right ascension of a star is also the sidereal time of its meridian passage. From this we may roughly find the mean time of meridian passage by adding the mean time of sidereal noon, on page III of the Calendar, or subtracting the sidereal time of mean noon on page II, (disregarding seconds); but we can find it more exactly by the processes already given for converting sidereal into mean time, the sidereal time being the right ascension of the star.

The right ascension and declination of a star are required whenever it is observed for time, latitude or azimuth. The mean places are sufficiently accurate for most observations at sea; but for more exact observations, the apparent places should be used which are given in the larger volume of the Almanac.

Eclipses.—Pages 251—255 contain a brief statement of the eclipses and a transit of Mercury over the sun's disk, which occur in 1891. Pages 253 and 254 contain charts of the eclipses of the sun, which show the part of the world in which each is visible. Each of the dotted curves passes through places where the eclipse begins, or ends, at the hour or minute of Greenwich time which is marked on it. These curves aid in finding an approximate time of the beginning and end at places between them.

TABLE I.

CORRECTION REQUIRED, ON ACCOUNT OF SECOND DIFFERENCES OF THE MOON'S
MOTION, IN FINDING THE GREENWICH TIME CORRESPONDING
TO A CORRECTED LUNAR DISTANCE

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	10	2	50	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	
0	20	2	40	0	1	1	1	1	1	2	2	2	2	2	2	3	3	3	4	4	4	4	5	5	5	6	6	6	
0	30	2	30	0	1	1	2	2	2	2	3	3	3	3	4	4	5	5	6	6	6	7	7	7	8	8	9	9	
0	40	2	20	0	1	1	2	2	3	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	10	11	11	
0	50	2	10	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	9	9	10	10	11	12	12	13	13		
1	0	2	0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	10	11	12	13	13	14	14	
1	10	1	50	1	1	2	2	3	4	4	5	5	6	6	7	8	8	9	9	10	11	11	12	13	14	14	15	15	
1	20	1	40	1	1	2	3	3	4	4	5	6	6	7	8	9	9	10	10	11	12	12	13	14	15	15	16	16	
1	30	1	30	1	1	2	3	3	4	4	5	6	6	7	8	8	9	9	10	11	12	12	13	14	15	16	16	16	

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100		
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s		
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
0	10	2	50	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7		
0	20	2	40	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	11	11	11	11	12	12	12	12	12		
0	30	2	30	9	10	10	10	11	11	12	12	12	13	13	13	14	14	14	15	15	16	16	16	17	17	17	17		
0	40	2	20	12	12	13	13	13	14	14	15	15	16	16	16	17	17	18	18	19	19	19	20	20	21	21	22		
0	50	2	10	14	14	15	15	16	16	16	17	17	18	19	19	20	20	21	21	22	22	22	23	23	24	24	25		
1	0	2	0	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24	25	25	26	27	27	28		
1	10	1	50	16	17	17	18	18	19	19	20	21	21	22	22	23	24	24	25	25	26	27	27	28	28	29	30		
1	20	1	40	17	17	18	19	19	20	20	21	21	22	23	23	24	25	25	26	26	27	28	28	29	29	30	31		
1	30	1	30	17	18	18	19	19	20	21	21	22	23	23	24	24	25	25	26	27	27	28	29	29	30	31	31		

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138							
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s		
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
0	10	2	50	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9		
0	20	2	40	13	13	13	13	14	14	14	14	15	15	15	15	15	15	15	16	16	16	16	16	17	17	17	17		
0	30	2	30	18	18	18	19	19	19	20	20	20	21	21	21	22	22	22	22	23	23	23	24	24	24	24	24		
0	40	2	20	22	22	23	23	24	24	25	25	25	26	26	27	27	28	28	28	28	29	29	29	30	30	30	30		
0	50	2	10	26	26	26	27	27	28	29	29	29	30	30	31	31	32	32	32	33	33	33	34	34	34	34	34		
1	0	2	0	28	29	29	30	30	31	31	32	33	33	34	34	35	35	36	36	37	37	37	38	38	38	38	38		
1	10	1	50	30	31	31	32	32	33	34	34	35	35	36	36	37	37	38	38	39	39	39	40	40	40	41	41		
1	20	1	40	31	32	33	33	34	34	35	35	36	36	37	38	38	39	39	40	40	41	41	42	42	42	42	42		
1	30	1	30	32	32	33	34	34	35	35	36	36	37	38	39	39	40	40	41	41	42	42	42	42	42	43	43		

The correction is to be added to the approximate Greenwich time when the proportional logarithms in the Ephemeris are decreasing, and subtracted when they are increasing.

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m	m	s	m	s	m	s	m	s	m	s	m	s
0	0	0.0	0	9.8	0	19.7	0	29.5	0	39.3	0	49.1
1	0	0.2	0	10.0	0	19.8	0	29.7	0	39.5	0	49.3
2	0	0.3	0	10.2	0	20.0	0	29.8	0	39.6	0	49.5
3	0	0.5	0	10.3	0	20.2	0	30.0	0	39.8	0	49.6
4	0	0.7	0	10.5	0	20.3	0	30.1	0	40.0	0	49.8
5	0	0.8	0	10.6	0	20.5	0	30.3	0	40.1	0	50.0
6	0	1.0	0	10.8	0	20.6	0	30.5	0	40.3	0	50.1
7	0	1.1	0	11.0	0	20.8	0	30.6	0	40.5	0	50.3
8	0	1.3	0	11.1	0	21.0	0	30.8	0	40.6	0	50.5
9	0	1.5	0	11.3	0	21.1	0	31.0	0	40.8	0	50.6
10	0	1.6	0	11.5	0	21.3	0	31.1	0	41.0	0	50.8
11	0	1.8	0	11.6	0	21.5	0	31.3	0	41.1	0	51.0
12	0	2.0	0	11.8	0	21.6	0	31.5	0	41.3	0	51.1
13	0	2.1	0	12.0	0	21.8	0	31.6	0	41.4	0	51.3
14	0	2.3	0	12.1	0	22.0	0	31.8	0	41.6	0	51.4
15	0	2.5	0	12.3	0	22.1	0	31.9	0	41.8	0	51.6
16	0	2.6	0	12.5	0	22.3	0	32.1	0	41.9	0	51.8
17	0	2.8	0	12.6	0	22.4	0	32.3	0	42.1	0	51.9
18	0	2.9	0	12.8	0	22.6	0	32.4	0	42.3	0	52.1
19	0	3.1	0	12.9	0	22.8	0	32.6	0	42.4	0	52.3
20	0	3.3	0	13.1	0	22.9	0	32.8	0	42.6	0	52.4
21	0	3.4	0	13.3	0	23.1	0	32.9	0	42.8	0	52.6
22	0	3.6	0	13.4	0	23.3	0	33.1	0	42.9	0	52.8
23	0	3.8	0	13.6	0	23.4	0	33.3	0	43.1	0	52.9
24	0	3.9	0	13.8	0	23.6	0	33.4	0	43.2	0	53.1
25	0	4.1	0	13.9	0	23.8	0	33.6	0	43.4	0	53.2
26	0	4.3	0	14.1	0	23.9	0	33.7	0	43.6	0	53.4
27	0	4.4	0	14.3	0	24.1	0	33.9	0	43.7	0	53.6
28	0	4.6	0	14.4	0	24.2	0	34.1	0	43.9	0	53.7
29	0	4.8	0	14.6	0	24.4	0	34.2	0	44.1	0	53.9
30	0	4.9	0	14.7	0	24.6	0	34.4	0	44.2	0	54.1
31	0	5.1	0	14.9	0	24.7	0	34.6	0	44.4	0	54.2
32	0	5.2	0	15.1	0	24.9	0	34.7	0	44.6	0	54.4
33	0	5.4	0	15.2	0	25.1	0	34.9	0	44.7	0	54.6
34	0	5.6	0	15.4	0	25.2	0	35.1	0	44.9	0	54.7
35	0	5.7	0	15.6	0	25.4	0	35.2	0	45.1	0	54.9
36	0	5.9	0	15.7	0	25.6	0	35.4	0	45.2	0	55.0
37	0	6.1	0	15.9	0	25.7	0	35.6	0	45.4	0	55.2
38	0	6.2	0	16.1	0	25.9	0	35.7	0	45.5	0	55.4
39	0	6.4	0	16.2	0	26.0	0	35.9	0	45.7	0	55.5
40	0	6.6	0	16.4	0	26.2	0	36.0	0	45.9	0	55.7
41	0	6.7	0	16.5	0	26.4	0	36.2	0	46.0	0	55.9
42	0	6.9	0	16.7	0	26.5	0	36.4	0	46.2	0	56.0
43	0	7.0	0	16.9	0	26.7	0	36.5	0	46.4	0	56.2
44	0	7.2	0	17.0	0	26.9	0	36.7	0	46.5	0	56.4
45	0	7.4	0	17.2	0	27.0	0	36.9	0	46.7	0	56.5
46	0	7.5	0	17.4	0	27.2	0	37.0	0	46.9	0	56.7
47	0	7.7	0	17.5	0	27.4	0	37.2	0	47.0	0	56.8
48	0	7.9	0	17.7	0	27.5	0	37.4	0	47.2	0	57.0
49	0	8.0	0	17.9	0	27.7	0	37.5	0	47.3	0	57.2
50	0	8.2	0	18.0	0	27.8	0	37.7	0	47.5	0	57.3
51	0	8.4	0	18.2	0	28.0	0	37.8	0	47.7	0	57.5
52	0	8.5	0	18.3	0	28.2	0	38.0	0	47.8	0	57.7
53	0	8.7	0	18.5	0	28.3	0	38.2	0	48.0	0	57.8
54	0	8.8	0	18.7	0	28.5	0	38.3	0	48.2	0	58.0
55	0	9.0	0	18.8	0	28.7	0	38.5	0	48.3	0	58.2
56	0	9.2	0	19.0	0	28.8	0	38.7	0	48.5	0	58.3
57	0	9.3	0	19.2	0	29.0	0	38.8	0	48.7	0	58.5
58	0	9.5	0	19.3	0	29.2	0	39.0	0	48.8	0	58.6
59	0	9.7	0	19.5	0	29.3	0	39.2	0	49.0	0	58.8
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
0	1 58.0	2 7.8	2 17.6	2 27.4	2 37.3	2 47.1	2 56.9	3 6.8	3 16.6	3 26.4	3 36.2	3 46.1
1	1 58.1	2 7.9	2 17.8	2 27.6	2 37.4	2 47.3	2 57.1	3 6.9	3 16.8	3 26.6	3 36.4	3 46.2
2	1 58.3	2 8.1	2 17.9	2 27.8	2 37.6	2 47.4	2 57.3	3 7.1	3 16.9	3 26.7	3 36.6	3 46.4
3	1 58.4	2 8.3	2 18.1	2 27.9	2 37.8	2 47.6	2 57.4	3 7.2	3 17.1	3 26.9	3 36.7	3 46.6
4	1 58.6	2 8.4	2 18.3	2 28.1	2 37.9	2 47.8	2 57.6	3 7.4	3 17.2	3 27.1	3 36.9	3 46.7
5	1 58.8	2 8.6	2 18.4	2 28.3	2 38.1	2 47.9	2 57.8	3 7.6	3 17.4	3 27.2	3 37.1	3 46.9
6	1 58.9	2 8.8	2 18.6	2 28.4	2 38.3	2 48.0	2 57.9	3 7.7	3 17.6	3 27.4	3 37.2	3 47.1
7	1 59.1	2 8.9	2 18.8	2 28.6	2 38.4	2 48.2	2 58.1	3 7.9	3 17.7	3 27.6	3 37.4	3 47.2
8	1 59.3	2 9.1	2 18.9	2 28.8	2 38.6	2 48.4	2 58.2	3 8.1	3 17.9	3 27.7	3 37.6	3 47.4
9	1 59.4	2 9.3	2 19.1	2 28.9	2 38.7	2 48.6	2 58.4	3 8.2	3 18.1	3 27.9	3 37.7	3 47.6
10	1 59.6	2 9.4	2 19.3	2 29.1	2 38.9	2 48.7	2 58.6	3 8.4	3 18.2	3 28.1	3 37.9	3 47.7
11	1 59.8	2 9.6	2 19.4	2 29.2	2 39.1	2 48.9	2 58.7	3 8.6	3 18.4	3 28.2	3 38.1	3 47.9
12	1 59.9	2 9.8	2 19.6	2 29.4	2 39.2	2 49.1	2 58.9	3 8.7	3 18.6	3 28.4	3 38.2	3 48.0
13	2 0.1	2 9.9	2 19.7	2 29.6	2 39.4	2 49.2	2 59.1	3 8.9	3 18.7	3 28.6	3 38.4	3 48.2
14	2 0.2	2 10.1	2 19.9	2 29.7	2 39.6	2 49.4	2 59.2	3 9.1	3 18.9	3 28.7	3 38.5	3 48.4
15	2 0.4	2 10.2	2 20.1	2 29.9	2 39.7	2 49.6	2 59.4	3 9.2	3 19.0	3 28.9	3 38.7	3 48.5
16	2 0.6	2 10.4	2 20.2	2 30.1	2 39.9	2 49.7	2 59.6	3 9.4	3 19.2	3 29.0	3 38.9	3 48.7
17	2 0.7	2 10.6	2 20.4	2 30.2	2 40.1	2 49.9	2 59.7	3 9.5	3 19.4	3 29.2	3 39.0	3 48.9
18	2 0.9	2 10.7	2 20.6	2 30.4	2 40.2	2 50.1	2 59.9	3 9.7	3 19.5	3 29.4	3 39.2	3 49.0
19	2 1.1	2 10.9	2 20.7	2 30.6	2 40.4	2 50.2	3 0.0	3 9.9	3 19.7	3 29.5	3 39.4	3 49.2
20	2 1.2	2 11.1	2 20.9	2 30.7	2 40.5	2 50.4	3 0.2	3 10.0	3 19.9	3 29.7	3 39.5	3 49.4
21	2 1.4	2 11.2	2 21.1	2 30.9	2 40.7	2 50.5	3 0.4	3 10.2	3 20.0	3 29.9	3 39.7	3 49.5
22	2 1.6	2 11.4	2 21.2	2 31.0	2 40.9	2 50.7	3 0.5	3 10.4	3 20.2	3 30.0	3 39.9	3 49.7
23	2 1.7	2 11.6	2 21.4	2 31.2	2 41.0	2 50.9	3 0.7	3 10.5	3 20.4	3 30.2	3 40.0	3 49.8
24	2 1.9	2 11.7	2 21.5	2 31.4	2 41.2	2 51.0	3 0.9	3 10.7	3 20.5	3 30.4	3 40.2	3 50.0
25	2 2.0	2 11.9	2 21.7	2 31.5	2 41.4	2 51.2	3 1.0	3 10.9	3 20.7	3 30.5	3 40.3	3 50.2
26	2 2.2	2 12.0	2 21.9	2 31.7	2 41.5	2 51.4	3 1.2	3 11.0	3 20.9	3 30.7	3 40.5	3 50.3
27	2 2.4	2 12.2	2 22.0	2 31.9	2 41.7	2 51.5	3 1.4	3 11.2	3 21.0	3 30.8	3 40.7	3 50.5
28	2 2.5	2 12.4	2 22.2	2 32.0	2 41.9	2 51.7	3 1.5	3 11.3	3 21.2	3 31.0	3 40.8	3 50.7
29	2 2.7	2 12.5	2 22.4	2 32.2	2 42.0	2 51.9	3 1.7	3 11.5	3 21.3	3 31.2	3 41.0	3 50.8
30	2 2.9	2 12.7	2 22.5	2 32.4	2 42.2	2 52.0	3 1.8	3 11.7	3 21.5	3 31.3	3 41.2	3 51.0
31	2 3.0	2 12.9	2 22.7	2 32.5	2 42.4	2 52.2	3 2.0	3 11.8	3 21.7	3 31.5	3 41.3	3 51.2
32	2 3.2	2 13.0	2 22.9	2 32.7	2 42.5	2 52.3	3 2.2	3 12.0	3 21.8	3 31.7	3 41.5	3 51.3
33	2 3.4	2 13.2	2 23.0	2 32.8	2 42.7	2 52.5	3 2.3	3 12.2	3 22.0	3 31.8	3 41.7	3 51.5
34	2 3.5	2 13.4	2 23.2	2 33.0	2 42.8	2 52.7	3 2.5	3 12.3	3 22.2	3 32.0	3 41.8	3 51.6
35	2 3.7	2 13.5	2 23.3	2 33.2	2 43.0	2 52.8	3 2.7	3 12.5	3 22.3	3 32.2	3 42.0	3 51.8
36	2 3.9	2 13.7	2 23.5	2 33.3	2 43.2	2 53.0	3 2.8	3 12.7	3 22.5	3 32.3	3 42.1	3 52.0
37	2 4.0	2 13.8	2 23.7	2 33.5	2 43.3	2 53.2	3 3.0	3 12.8	3 22.7	3 32.5	3 42.3	3 52.1
38	2 4.2	2 14.0	2 23.8	2 33.7	2 43.5	2 53.3	3 3.2	3 13.0	3 22.8	3 32.6	3 42.5	3 52.3
39	2 4.3	2 14.2	2 24.0	2 33.8	2 43.7	2 53.5	3 3.3	3 13.2	3 23.0	3 32.8	3 42.6	3 52.5
40	2 4.5	2 14.3	2 24.2	2 34.0	2 43.8	2 53.7	3 3.5	3 13.3	3 23.1	3 33.0	3 42.8	3 52.6
41	2 4.7	2 14.5	2 24.3	2 34.2	2 44.0	2 53.8	3 3.6	3 13.5	3 23.3	3 33.1	3 43.0	3 52.8
42	2 4.8	2 14.7	2 24.5	2 34.3	2 44.2	2 54.0	3 3.8	3 13.6	3 23.5	3 33.3	3 43.1	3 53.0
43	2 5.0	2 14.8	2 24.7	2 34.5	2 44.3	2 54.1	3 4.0	3 13.8	3 23.6	3 33.5	3 43.3	3 53.1
44	2 5.2	2 15.0	2 24.8	2 34.7	2 44.5	2 54.3	3 4.1	3 14.0	3 23.8	3 33.6	3 43.5	3 53.3
45	2 5.3	2 15.2	2 25.0	2 34.8	2 44.6	2 54.5	3 4.3	3 14.1	3 24.0	3 33.8	3 43.6	3 53.5
46	2 5.5	2 15.3	2 25.2	2 35.0	2 44.8	2 54.6	3 4.5	3 14.3	3 24.1	3 34.0	3 43.8	3 53.6
47	2 5.7	2 15.5	2 25.3	2 35.1	2 45.0	2 54.8	3 4.6	3 14.5	3 24.3	3 34.1	3 44.0	3 53.8
48	2 5.8	2 15.6	2 25.5	2 35.3	2 45.1	2 55.0	3 4.8	3 14.6	3 24.5	3 34.3	3 44.1	3 53.9
49	2 6.0	2 15.8	2 25.6	2 35.5	2 45.3	2 55.1	3 5.0	3 14.8	3 24.6	3 34.4	3 44.3	3 54.1
50	2 6.1	2 16.0	2 25.8	2 35.6	2 45.5	2 55.3	3 5.1	3 15.0	3 24.8	3 34.6	3 44.4	3 54.3
51	2 6.3	2 16.1	2 26.0	2 35.8	2 45.6	2 55.5	3 5.3	3 15.1	3 24.9	3 34.8	3 44.6	3 54.4
52	2 6.5	2 16.3	2 26.1	2 36.0	2 45.8	2 55.6	3 5.5	3 15.3	3 25.1	3 34.9	3 44.8	3 54.6
53	2 6.6	2 16.5	2 26.3	2 36.1	2 46.0	2 55.8	3 5.6	3 15.4	3 25.3	3 35.1	3 44.9	3 54.8
54	2 6.8	2 16.6	2 26.5	2 36.3	2 46.1	2 55.9	3 5.8	3 15.6	3 25.4	3 35.3	3 45.1	3 54.9
55	2 7.0	2 16.8	2 26.6	2 36.5	2 46.3	2 56.1	3 5.9	3 15.8	3 25.6	3 35.4	3 45.3	3 55.1
56	2 7.1	2 17.0	2 26.8	2 36.6	2 46.4	2 56.3	3 6.1	3 15.9	3 25.8	3 35.6	3 45.4	3 55.3
57	2 7.3	2 17.1	2 27.0	2 36.8	2 46.6	2 56.4	3 6.3	3 16.1	3 25.9	3 35.8	3 45.6	3 55.4
58	2 7.5	2 17.3	2 27.1	2 36.9	2 46.8	2 56.6	3 6.4	3 16.3	3 26.1	3 35.9	3 45.8	3 55.6
59	2 7.6	2 17.4	2 27.3	2 37.1	2 46.9	2 56.8	3 6.6	3 16.4	3 26.3	3 36.1	3 45.9	3 55.7
Side- real.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.												
Mean Solar.	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h
m	m	s	m	s	m	s	m	s	m	s	m	s
0	0	0.0	0	9.9	0	19.7	0	29.6	0	39.4	0	49.3
1	0	0.2	0	10.0	0	19.9	0	29.7	0	39.6	0	49.4
2	0	0.3	0	10.2	0	20.0	0	29.9	0	39.8	0	49.6
3	0	0.5	0	10.3	0	20.2	0	30.1	0	39.9	0	49.8
4	0	0.7	0	10.5	0	20.4	0	30.2	0	40.1	0	49.9
5	0	0.8	0	10.7	0	20.5	0	30.4	0	40.2	0	50.1
6	0	1.0	0	10.8	0	20.7	0	30.6	0	40.4	0	50.3
7	0	1.2	0	11.0	0	20.9	0	30.7	0	40.6	0	50.4
8	0	1.3	0	11.2	0	21.0	0	30.9	0	40.7	0	50.6
9	0	1.5	0	11.3	0	21.2	0	31.0	0	40.9	0	50.8
10	0	1.6	0	11.5	0	21.4	0	31.2	0	41.1	0	50.9
11	0	1.8	0	11.7	0	21.5	0	31.4	0	41.2	0	51.1
12	0	2.0	0	11.8	0	21.7	0	31.5	0	41.4	0	51.3
13	0	2.1	0	12.0	0	21.8	0	31.7	0	41.6	0	51.4
14	0	2.3	0	12.2	0	22.0	0	31.9	0	41.7	0	51.6
15	0	2.5	0	12.3	0	22.2	0	32.0	0	41.9	0	51.7
16	0	2.6	0	12.5	0	22.3	0	32.2	0	42.1	0	51.9
17	0	2.8	0	12.6	0	22.5	0	32.4	0	42.2	0	52.1
18	0	3.0	0	12.8	0	22.7	0	32.5	0	42.4	0	52.2
19	0	3.1	0	13.0	0	22.8	0	32.7	0	42.5	0	52.4
20	0	3.3	0	13.1	0	23.0	0	32.9	0	42.7	0	52.6
21	0	3.4	0	13.3	0	23.2	0	33.0	0	42.9	0	52.7
22	0	3.6	0	13.5	0	23.3	0	33.2	0	43.0	0	52.9
23	0	3.8	0	13.6	0	23.5	0	33.3	0	43.2	0	53.1
24	0	3.9	0	13.8	0	23.7	0	33.5	0	43.4	0	53.2
25	0	4.1	0	14.0	0	23.8	0	33.7	0	43.5	0	53.4
26	0	4.3	0	14.1	0	24.0	0	33.8	0	43.7	0	53.6
27	0	4.4	0	14.3	0	24.1	0	34.0	0	43.9	0	53.7
28	0	4.6	0	14.5	0	24.3	0	34.2	0	44.0	0	53.9
29	0	4.8	0	14.6	0	24.5	0	34.3	0	44.2	0	54.0
30	0	4.9	0	14.8	0	24.6	0	34.5	0	44.4	0	54.2
31	0	5.1	0	14.9	0	24.8	0	34.7	0	44.5	0	54.4
32	0	5.3	0	15.1	0	25.0	0	34.8	0	44.7	0	54.5
33	0	5.4	0	15.3	0	25.1	0	35.0	0	44.8	0	54.7
34	0	5.6	0	15.4	0	25.3	0	35.2	0	45.0	0	54.9
35	0	5.8	0	15.6	0	25.5	0	35.3	0	45.2	0	55.0
36	0	5.9	0	15.8	0	25.6	0	35.5	0	45.3	0	55.2
37	0	6.1	0	15.9	0	25.8	0	35.6	0	45.5	0	55.4
38	0	6.2	0	16.1	0	26.0	0	35.8	0	45.7	0	55.5
39	0	6.4	0	16.3	0	26.1	0	36.0	0	45.8	0	55.7
40	0	6.6	0	16.4	0	26.3	0	36.1	0	46.0	0	55.9
41	0	6.7	0	16.6	0	26.4	0	36.3	0	46.2	0	56.0
42	0	6.9	0	16.8	0	26.6	0	36.5	0	46.3	0	56.2
43	0	7.1	0	16.9	0	26.8	0	36.6	0	46.5	0	56.3
44	0	7.2	0	17.1	0	26.9	0	36.8	0	46.7	0	56.5
45	0	7.4	0	17.2	0	27.1	0	37.0	0	46.8	0	56.7
46	0	7.6	0	17.4	0	27.3	0	37.1	0	47.0	0	56.8
47	0	7.7	0	17.6	0	27.4	0	37.3	0	47.1	0	57.0
48	0	7.9	0	17.7	0	27.6	0	37.5	0	47.3	0	57.2
49	0	8.0	0	17.9	0	27.8	0	37.6	0	47.5	0	57.3
50	0	8.2	0	18.1	0	27.9	0	37.8	0	47.6	0	57.5
51	0	8.4	0	18.2	0	28.1	0	37.9	0	47.8	0	57.7
52	0	8.5	0	18.4	0	28.3	0	38.1	0	48.0	0	57.8
53	0	8.7	0	18.6	0	28.4	0	38.3	0	48.1	0	58.0
54	0	8.9	0	18.7	0	28.6	0	38.4	0	48.3	0	58.2
55	0	9.0	0	18.9	0	28.7	0	38.6	0	48.5	0	58.3
56	0	9.2	0	19.1	0	28.9	0	38.8	0	48.6	0	58.5
57	0	9.4	0	19.2	0	29.1	0	38.9	0	48.8	0	58.6
58	0	9.5	0	19.4	0	29.2	0	39.1	0	49.0	0	58.8
59	0	9.7	0	19.5	0	29.4	0	39.3	0	49.1	0	59.0
Mean Solar.	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.

Mean Solar.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h
0	1 58.3	2 8.1	2 18.0	2 27.8	2 37.7	2 47.6	2 57.4	3 7.3	3 17.1	3 27.0	3 36.8	3 46.7
1	1 58.4	2 8.3	2 18.2	2 28.0	2 37.9	2 47.7	2 57.6	3 7.4	3 17.3	3 27.2	3 37.0	3 46.9
2	1 58.6	2 8.5	2 18.3	2 28.2	2 38.0	2 47.9	2 57.7	3 7.6	3 17.5	3 27.3	3 37.2	3 47.0
3	1 58.8	2 8.6	2 18.5	2 28.3	2 38.2	2 48.1	2 57.9	3 7.8	3 17.6	3 27.5	3 37.3	3 47.2
4	1 58.9	2 8.8	2 18.6	2 28.5	2 38.4	2 48.2	2 58.1	3 7.9	3 17.8	3 27.6	3 37.5	3 47.4
5	1 59.1	2 9.0	2 18.8	2 28.7	2 38.5	2 48.4	2 58.2	3 8.1	3 18.0	3 27.8	3 37.7	3 47.5
6	1 59.3	2 9.1	2 19.0	2 28.8	2 38.7	2 48.5	2 58.4	3 8.3	3 18.1	3 28.0	3 37.8	3 47.7
7	1 59.4	2 9.3	2 19.1	2 29.0	2 38.9	2 48.7	2 58.6	3 8.4	3 18.3	3 28.1	3 38.0	3 47.8
8	1 59.6	2 9.4	2 19.3	2 29.2	2 39.0	2 48.9	2 58.7	3 8.6	3 18.4	3 28.3	3 38.2	3 48.0
9	1 59.8	2 9.6	2 19.5	2 29.3	2 39.2	2 49.0	2 58.9	3 8.8	3 18.6	3 28.5	3 38.3	3 48.2
10	1 59.9	2 9.8	2 19.6	2 29.5	2 39.3	2 49.2	2 59.1	3 8.9	3 18.8	3 28.6	3 38.5	3 48.3
11	2 0.1	2 9.9	2 19.8	2 29.7	2 39.5	2 49.4	2 59.2	3 9.1	3 18.9	3 28.8	3 38.6	3 48.5
12	2 0.2	2 10.1	2 20.0	2 29.8	2 39.7	2 49.5	2 59.4	3 9.2	3 19.1	3 29.0	3 38.8	3 48.7
13	2 0.4	2 10.3	2 20.1	2 30.0	2 39.8	2 49.7	2 59.6	3 9.4	3 19.3	3 29.1	3 39.0	3 48.8
14	2 0.6	2 10.4	2 20.3	2 30.1	2 40.0	2 49.9	2 59.7	3 9.6	3 19.4	3 29.3	3 39.1	3 49.0
15	2 0.7	2 10.6	2 20.5	2 30.3	2 40.2	2 50.0	2 59.9	3 9.7	3 19.6	3 29.4	3 39.3	3 49.2
16	2 0.9	2 10.8	2 20.6	2 30.5	2 40.3	2 50.2	3 0.0	3 9.9	3 19.8	3 29.6	3 39.5	3 49.3
17	2 1.1	2 10.9	2 20.8	2 30.6	2 40.5	2 50.4	3 0.2	3 10.1	3 19.9	3 29.8	3 39.6	3 49.5
18	2 1.2	2 11.1	2 20.9	2 30.8	2 40.7	2 50.5	3 0.4	3 10.2	3 20.1	3 29.9	3 39.8	3 49.7
19	2 1.4	2 11.3	2 21.1	2 31.0	2 40.8	2 50.7	3 0.5	3 10.4	3 20.3	3 30.1	3 40.0	3 49.8
20	2 1.6	2 11.4	2 21.3	2 31.1	2 41.0	2 50.8	3 0.7	3 10.6	3 20.4	3 30.3	3 40.1	3 50.0
21	2 1.7	2 11.6	2 21.4	2 31.3	2 41.2	2 51.0	3 0.9	3 10.7	3 20.6	3 30.4	3 40.3	3 50.1
22	2 1.9	2 11.7	2 21.6	2 31.5	2 41.3	2 51.2	3 1.0	3 10.9	3 20.7	3 30.6	3 40.5	3 50.3
23	2 2.1	2 11.9	2 21.8	2 31.6	2 41.5	2 51.3	3 1.2	3 11.1	3 20.9	3 30.8	3 40.6	3 50.5
24	2 2.2	2 12.1	2 21.9	2 31.8	2 41.6	2 51.5	3 1.4	3 11.2	3 21.1	3 30.9	3 40.8	3 50.6
25	2 2.4	2 12.2	2 22.1	2 32.0	2 41.8	2 51.7	3 1.5	3 11.4	3 21.2	3 31.1	3 40.9	3 50.8
26	2 2.5	2 12.4	2 22.3	2 32.1	2 42.0	2 51.8	3 1.7	3 11.5	3 21.4	3 31.3	3 41.1	3 51.0
27	2 2.7	2 12.6	2 22.4	2 32.3	2 42.1	2 52.0	3 1.9	3 11.7	3 21.6	3 31.4	3 41.3	3 51.1
28	2 2.9	2 12.7	2 22.6	2 32.4	2 42.3	2 52.2	3 2.0	3 11.9	3 21.7	3 31.6	3 41.4	3 51.3
29	2 3.0	2 12.9	2 22.8	2 32.6	2 42.5	2 52.3	3 2.2	3 12.0	3 21.9	3 31.8	3 41.6	3 51.5
30	2 3.2	2 13.1	2 22.9	2 32.8	2 42.6	2 52.5	3 2.3	3 12.2	3 22.1	3 31.9	3 41.8	3 51.6
31	2 3.4	2 13.2	2 23.1	2 32.9	2 42.8	2 52.7	3 2.5	3 12.4	3 22.2	3 32.1	3 41.9	3 51.8
32	2 3.5	2 13.4	2 23.2	2 33.1	2 43.0	2 52.8	3 2.7	3 12.5	3 22.4	3 32.2	3 42.1	3 52.0
33	2 3.7	2 13.6	2 23.4	2 33.3	2 43.1	2 53.0	3 2.8	3 12.7	3 22.6	3 32.4	3 42.3	3 52.1
34	2 3.9	2 13.7	2 23.6	2 33.4	2 43.3	2 53.1	3 3.0	3 12.9	3 22.7	3 32.6	3 42.4	3 52.3
35	2 4.0	2 13.9	2 23.7	2 33.6	2 43.5	2 53.3	3 3.2	3 13.0	3 22.9	3 32.7	3 42.6	3 52.4
36	2 4.2	2 14.0	2 23.9	2 33.8	2 43.6	2 53.5	3 3.3	3 13.2	3 23.0	3 32.9	3 42.8	3 52.6
37	2 4.4	2 14.2	2 24.1	2 33.9	2 43.8	2 53.6	3 3.5	3 13.4	3 23.2	3 33.1	3 42.9	3 52.8
38	2 4.5	2 14.4	2 24.2	2 34.1	2 43.9	2 53.8	3 3.7	3 13.5	3 23.4	3 33.2	3 43.1	3 52.9
39	2 4.7	2 14.5	2 24.4	2 34.3	2 44.1	2 54.0	3 3.8	3 13.7	3 23.5	3 33.4	3 43.2	3 53.1
40	2 4.8	2 14.7	2 24.6	2 34.4	2 44.3	2 54.1	3 4.0	3 13.8	3 23.7	3 33.6	3 43.4	3 53.3
41	2 5.0	2 14.9	2 24.7	2 34.6	2 44.4	2 54.3	3 4.2	3 14.0	3 23.9	3 33.7	3 43.6	3 53.4
42	2 5.2	2 15.0	2 24.9	2 34.7	2 44.6	2 54.5	3 4.3	3 14.2	3 24.0	3 33.9	3 43.7	3 53.6
43	2 5.3	2 15.2	2 25.1	2 34.9	2 44.8	2 54.6	3 4.5	3 14.3	3 24.2	3 34.0	3 43.9	3 53.8
44	2 5.5	2 15.4	2 25.2	2 35.1	2 44.9	2 54.8	3 4.6	3 14.5	3 24.4	3 34.2	3 44.1	3 53.9
45	2 5.7	2 15.5	2 25.4	2 35.2	2 45.1	2 55.0	3 4.8	3 14.7	3 24.5	3 34.4	3 44.2	3 54.1
46	2 5.8	2 15.7	2 25.5	2 35.4	2 45.3	2 55.1	3 5.0	3 14.8	3 24.7	3 34.5	3 44.4	3 54.3
47	2 6.0	2 15.9	2 25.7	2 35.6	2 45.4	2 55.3	3 5.1	3 15.0	3 24.8	3 34.7	3 44.6	3 54.4
48	2 6.2	2 16.0	2 25.9	2 35.7	2 45.6	2 55.4	3 5.3	3 15.2	3 25.0	3 34.9	3 44.7	3 54.6
49	2 6.3	2 16.2	2 26.0	2 35.9	2 45.8	2 55.6	3 5.5	3 15.3	3 25.2	3 35.0	3 44.9	3 54.7
50	2 6.5	2 16.3	2 26.2	2 36.1	2 45.9	2 55.8	3 5.6	3 15.5	3 25.3	3 35.2	3 45.1	3 54.9
51	2 6.7	2 16.5	2 26.4	2 36.2	2 46.1	2 55.9	3 5.8	3 15.7	3 25.5	3 35.4	3 45.2	3 55.1
52	2 6.8	2 16.7	2 26.5	2 36.4	2 46.2	2 56.1	3 6.0	3 15.8	3 25.7	3 35.5	3 45.4	3 55.2
53	2 7.0	2 16.8	2 26.7	2 36.6	2 46.4	2 56.3	3 6.1	3 16.0	3 25.8	3 35.7	3 45.5	3 55.4
54	2 7.1	2 17.0	2 26.9	2 36.7	2 46.6	2 56.4	3 6.3	3 16.1	3 26.0	3 35.9	3 45.7	3 55.6
55	2 7.3	2 17.2	2 27.0	2 36.9	2 46.7	2 56.6	3 6.5	3 16.3	3 26.2	3 36.0	3 45.9	3 55.7
56	2 7.5	2 17.3	2 27.2	2 37.0	2 46.9	2 56.8	3 6.6	3 16.5	3 26.3	3 36.2	3 46.0	3 55.9
57	2 7.6	2 17.5	2 27.4	2 37.2	2 47.1	2 56.9	3 6.8	3 16.6	3 26.5	3 36.4	3 46.2	3 56.1
58	2 7.8	2 17.7	2 27.5	2 37.4	2 47.2	2 57.1	3 6.9	3 16.8	3 26.7	3 36.5	3 46.4	3 56.2
59	2 8.0	2 17.8	2 27.7	2 37.5	2 47.4	2 57.3	3 7.1	3 17.0	3 26.8	3 36.7	3 46.5	3 56.4
Mean Solar.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h

TABLE IV.—LATITUDE BY POLARIS.

TABLE FOR FINDING THE LATITUDE BY AN OBSERVED ALTITUDE OF POLARIS.

Reduce the observed altitude of Polaris to the true altitude.

Reduce the recorded time of observation to local sidereal time.

If the sidereal time is $\left\{ \begin{array}{l} \text{less than } 1^h 18^m.9, \text{ subtract it from } 1^h 18^m.9; \\ \text{between } 1^h 18^m.9 \text{ and } 13^h 18^m.9, \text{ subtract } 1^h 18^m.9 \text{ from it;} \\ \text{greater than } 13^h 18^m.9, \text{ subtract it from } 25^h 18^m.9; \end{array} \right.$

and the remainder is the hour-angle of Polaris.

With this hour-angle take out the correction from Table IV (below), and add it to or subtract it from the true altitude, according to its sign. The result is the latitude of the place.

Example.—1891, November 10, at $9^h 29^m 29^s$, P. M., mean solar time, in longitude 29° east of Greenwich, suppose the true altitude of Polaris to be $29^\circ 29'$: required the latitude of the place.

Local astronomical mean time	$9^h 29^m 29^s$
Reduction from Table III, for $9^h 29^m 29^s$	+ 1 34
Greenwich sidereal time of mean noon, November 10, page 183	15 17 25.8
Reduction from Table III, for longitude ($= 1^h 56^m$ east, or minus)	— 0 19
Sum (having regard to signs) is equal to local sidereal time	$0^h 48^m 9.8^s$
Subtract sidereal time	$0^h 48^m 9.8^s$
Remainder is equal to hour-angle of Polaris	$0^h 30^m 44.2^s$
True altitude	+ $29^\circ 29'$
Correction from Table IV.	— 1 16.3
Approximate Latitude	+ $28^\circ 12.7'$

TABLE IV.—1891.

Hour-Angle.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .
m						
0	— 1 17.0 0.0	— 1 14.3 0.5	— 1 6.5 0.9	— 0 54.1 1.2	— 0 37.8 1.5	— 0 19.1 1.6
5	1 17.0 0.1	1 13.8 0.5	1 5.6 0.9	0 52.9 1.3	0 36.3 1.5	0 17.5 1.7
10	1 16.9 0.1	1 13.3 0.5	1 4.7 0.9	0 51.6 1.3	0 34.8 1.5	0 15.8 1.7
15	1 16.8 0.1	1 12.8 0.5	1 3.8 0.9	0 50.3 1.3	0 33.3 1.5	0 14.2 1.7
20	— 1 16.7 0.2	— 1 12.2 0.6	— 1 2.8 1.0	— 0 49.0 1.3	— 0 31.8 1.5	— 0 12.5 1.6
25	1 16.5 0.2	1 11.6 0.6	1 1.8 1.0	0 47.7 1.3	0 30.3 1.5	0 10.9 1.6
30	1 16.3 0.2	1 11.0 0.6	1 0.8 1.1	0 46.4 1.3	0 28.8 1.5	0 9.2 1.7
35	1 16.1 0.3	1 10.3 0.7	0 59.7 1.1	0 45.0 1.4	0 27.2 1.6	0 7.6 1.6
40	— 1 15.8 0.3	— 1 9.6 0.7	— 0 58.6 1.1	— 0 43.6 1.4	— 0 25.6 1.6	— 0 5.9 1.7
45	1 15.5 0.3	1 8.9 0.7	0 57.5 1.1	0 42.2 1.4	0 24.0 1.6	0 4.2 1.7
50	1 15.1 0.4	1 8.1 0.8	0 56.4 1.1	0 40.8 1.4	0 22.4 1.6	0 2.5 1.7
55	1 14.7 0.4	1 7.3 0.8	0 55.3 1.1	0 39.3 1.5	0 20.8 1.6	— 0 0.8 1.7
60	— 1 14.3 0.4	— 1 6.5 0.8	— 0 54.1 1.2	— 0 37.8 1.5	— 0 19.1 1.7	+ 0 0.9 1.7
Hour-Angle.	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m						
0	+ 0 0.9 1.7	+ 0 20.7 1.6	+ 0 39.1 1.4	+ 0 54.9 1.1	+ 1 6.9 0.8	+ 1 14.4 0.4
5	0 2.6 1.7	0 22.3 1.6	0 40.5 1.4	0 56.0 1.1	1 7.7 0.8	1 14.8 0.4
10	0 4.3 1.7	0 23.9 1.6	0 41.9 1.4	0 57.1 1.1	1 8.5 0.7	1 15.2 0.4
15	0 6.0 1.6	0 25.5 1.6	0 43.3 1.4	0 58.2 1.1	1 9.2 0.7	1 15.6 0.4
20	+ 0 7.6 1.7	+ 0 27.1 1.6	+ 0 44.7 1.4	+ 0 59.3 1.1	+ 1 9.9 0.7	+ 1 15.9 0.3
25	0 9.3 1.7	0 28.7 1.6	0 46.1 1.4	1 0.4 1.0	1 10.6 0.6	1 16.2 0.3
30	0 11.0 1.6	0 30.3 1.5	0 47.4 1.3	1 1.4 1.0	1 11.2 0.6	1 16.1 0.2
35	0 12.6 1.6	0 31.8 1.5	0 48.7 1.3	1 2.4 1.0	1 11.8 0.6	1 16.6 0.1
40	+ 0 14.2 1.7	+ 0 33.3 1.5	+ 0 50.0 1.3	+ 1 3.4 0.9	+ 1 12.4 0.5	+ 1 16.7 0.1
45	0 15.9 1.6	0 34.8 1.5	0 51.3 1.2	1 4.3 0.9	1 12.9 0.5	1 16.8 0.1
50	0 17.5 1.6	0 36.3 1.5	0 52.5 1.2	1 5.2 0.9	1 13.4 0.5	1 16.9 0.1
55	0 19.1 1.6	0 37.7 1.4	0 53.7 1.2	1 6.1 0.9	1 13.9 0.5	1 17.0 0.1
60	+ 0 20.7 1.6	+ 0 39.1 1.4	+ 0 54.9 1.2	+ 1 6.9 0.8	+ 1 14.4 0.5	+ 1 17.0 0.0

THE

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NAUTICAL ALMANAC

FOR THE YEAR

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SECOND EDITION

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FROM THE ASTRONOMICAL OBSERVATORY
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PREFACE.

THE portion of *The American Ephemeris and Nautical Almanac* contained in this volume is designed for the special use of navigators, and is adapted to the meridian of Greenwich. It contains the ephemerides of the sun and moon; the distances of the moon from the centres of the sun and of the four most conspicuous planets and from certain fixed stars; the ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn; and the mean places of 150 fixed stars for the beginning of the year 1892. Elements of the eclipses which occur during the year, with charts of the eclipses of the sun, are also given. Tables for the reduction of mean and sidereal time and for finding the latitude by observation of the altitude of Polaris have been appended.

The methods, tables and constants that have been used in the construction of the Almanac, may be learned by reference to the article on the construction of the astronomical and nautical ephemerides, in the larger volume of *The American Ephemeris and Nautical Almanac* for the year 1892.

SIMON NEWCOMB,

Professor U. S. Navy, Superintendent.

WASHINGTON, *March*, 1891.

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CHRONOLOGICAL ERAS AND CYCLES.

CHRONOLOGICAL ERAS.

THE YEAR 1892, WHICH COMPRISES THE LATTER PART OF THE 116TH AND THE BEGINNING OF THE 117TH YEAR OF THE INDEPENDENCE OF THE UNITED STATES OF AMERICA, CORRESPONDS TO—

The year 6605 of the Julian Period;

- “ 7400–7401 of the Byzantine era, the year 7401 commencing on September 1st;
- “ 5652–53 of the Jewish era, the year 5653 commencing on September 22d, or, more exactly, at sunset on September 21st;
- “ 2645 since the foundation of Rome, according to VARRO;
- “ 2639 since the beginning of the era of NABONASSAR, which has been assigned to Wednesday, the 26th of February of the 3967th year of the Julian Period; corresponding, in the notation of chronologists, to the 747th; and, in the notation of astronomers, to the 746th year before the birth of CHRIST;
- “ 2668 of the Olympiads, or the fourth year of the 667th Olympiad commencing in July, 1892, if we fix the era of the Olympiads at 775½ years before CHRIST, or near the beginning of July of the year 3938 of the Julian Period;
- “ 2204 of the Grecian era, or the era of the Seleucidæ;
- “ 1608 of the era of DIOCLETIAN;
- “ 2552 of the Japanese era and to the 25th year of the period entitled “Meiji.”

The year 1310 of the Mohammedan era, or the era of the Hegira, begins on the 26th day of July, 1892.

The first day of January of the year 1892 is the 2,412,009th day since the commencement of the Julian Period.

CHRONOLOGICAL CYCLES.

Dominical Letter	C, B	Solar Cycle	25
Epact	1	Roman Indiction	5
Lunar Cycle or Golden Number	12	Julian Period	6605

SYMBOLS AND ABBREVIATIONS.

SIGNS OF THE PLANETS, ETC.

☉ The Sun. ☾ The Moon. ☿ Mercury. ♀ Venus. ♁ The Earth.		♂ Mars. ♃ Jupiter. ♄ Saturn. ♅ Uranus. ♆ Neptune.
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SIGNS OF THE ZODIAC.

Spring Signs. { 1. ♈ Aries. 2. ♉ Taurus. 3. ♊ Gemini. Summer Signs. { 4. ♋ Cancer. 5. ♌ Leo. 6. ♍ Virgo.		Autumn Signs. { 7. ♎ Libra. 8. ♏ Scorpius. 9. ♐ Sagittarius. Winter Signs. { 10. ♑ Capricornus 11. ♒ Aquarius. 12. ♓ Pisces.
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ASPECTS.

- ♌ Conjunction, or having the same Longitude or Right Ascension.
- ☐ Quadrature, or differing 90° in Longitude or Right Ascension.
- ♌ Opposition, or differing 180° in Longitude or Right Ascension.

ABBREVIATIONS.

♊ Ascending Node. ♋ Descending Node. N. North. S. South. E. East. W. West.		° Degrees. ' Minutes of Arc. " Seconds of Arc. h Hours. m Minutes of Time. s Seconds of Time.
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ASTRONOMICAL EPHEMERIS

FOR THE

MERIDIAN OF GREENWICH

AT GREENWICH APPARENT NOON.

AT GREENWICH APPARENT NOON.										
Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.	
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.				
		^h ^m ^s	^s	[°] ['] ^{''}	^{''}	['] ^{''}				
Frid.	1	18 46 5.33	11.050	S. 23 1 54.9	+12.16	16 18.37	71.09	^m ^s 3 37.94	^s 1.189	
Sat.	2	18 50 30.35	11.035	22 56 49.2	13.31	16 18.37	71.04	4 6.32	1.175	
SUN.	3	18 54 55.00	11.019	22 51 16.0	14.45	16 18.37	70.99	4 34.33	1.159	
Mon.	4	18 59 19.26	11.002	22 45 15.5	+15.58	16 18.36	70.94	5 1.96	1.143	
Tues.	5	19 3 43.09	10.983	22 38 47.9	16.71	16 18.35	70.89	5 29.16	1.123	
Wed.	6	19 8 6.47	10.963	22 31 53.4	17.83	16 18.34	70.82	5 55.90	1.104	
Thur.	7	19 12 29.35	10.943	22 24 32.2	+18.93	16 18.32	70.76	6 22.16	1.084	
Frid.	8	19 16 51.73	10.921	22 16 44.5	20.03	16 18.30	70.69	6 47.90	1.062	
Sat.	9	19 21 13.56	10.899	22 8 30.6	21.12	16 18.27	70.63	7 13.10	1.040	
SUN.	10	19 25 34.82	10.875	21 59 50.7	+22.19	16 18.24	70.55	7 37.74	1.016	
Mon.	11	19 29 55.51	10.850	21 50 45.1	23.26	16 18.20	70.47	8 1.80	0.991	
Tues.	12	19 34 15.59	10.824	21 41 14.0	24.31	16 18.15	70.39	8 25.26	0.965	
Wed.	13	19 38 35.04	10.798	21 31 17.8	+25.36	16 18.10	70.31	8 48.11	0.939	
Thur.	14	19 42 53.86	10.771	21 20 56.8	26.40	16 18.04	70.22	9 10.31	0.912	
Frid.	15	19 47 12.02	10.743	21 10 11.1	27.42	16 17.98	70.13	9 31.85	0.884	
Sat.	16	19 51 29.51	10.715	20 59 1.0	+28.42	16 17.91	70.03	9 52.72	0.856	
SUN.	17	19 55 46.32	10.685	20 47 26.9	29.41	16 17.83	69.94	10 12.92	0.827	
Mon.	18	20 0 2.43	10.656	20 35 29.2	30.39	16 17.74	69.84	10 32.42	0.798	
Tues.	19	20 4 17.84	10.627	20 23 8.1	+31.36	16 17.65	69.74	10 51.22	0.769	
Wed.	20	20 8 32.53	10.597	20 10 23.9	32.31	16 17.56	69.64	11 9.30	0.739	
Thur.	21	20 12 46.48	10.567	19 57 17.0	33.25	16 17.46	69.53	11 26.64	0.709	
Frid.	22	20 16 59.68	10.538	19 43 47.8	+34.18	16 17.35	69.42	11 43.24	0.678	
Sat.	23	20 21 12.13	10.504	19 29 56.5	35.09	16 17.24	69.31	11 59.09	0.646	
SUN.	24	20 25 23.81	10.472	19 15 43.5	35.99	16 17.13	69.20	12 14.18	0.614	
Mon.	25	20 29 34.72	10.439	19 1 9.2	+36.87	16 17.01	69.09	12 28.49	0.581	
Tues.	26	20 33 44.84	10.405	18 46 14.0	37.73	16 16.89	68.98	12 42.02	0.547	
Wed.	27	20 37 54.16	10.371	18 30 58.2	38.58	16 16.76	68.87	12 54.75	0.514	
Thur.	28	20 42 2.67	10.338	18 15 22.2	+39.42	16 16.63	68.76	13 6.67	0.481	
Frid.	29	20 46 10.37	10.304	17 59 26.5	40.22	16 16.50	68.64	13 17.78	0.447	
Sat.	30	20 50 17.25	10.270	17 43 11.4	41.02	16 16.36	68.53	13 28.07	0.413	
SUN.	31	20 54 23.30	10.235	17 26 37.4	41.80	16 16.22	68.42	13 37.53	0.378	
Mon.	32	20 58 28.51	10.200	S. 17 9 44.8	+42.56	16 16.08	68.31	13 46.16	0.343	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0".19 from the sideral time.

The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Frid.	1	^h 18 ^m 46 ^s 4.66	11.046	S. 23° 1' 55.6"	+12.16	^m 3 ^s 37.87	1.189	^h 18 ^m 42 ^s 26.79
Sat.	2	18 50 29.59	11.031	22 56 50.1	13.30	4 6.24	1.175	18 46 23.35
SUN.	3	18 54 54.16	11.016	22 51 17.1	14.44	4 34.25	1.159	18 50 19.91
Mon.	4	18 59 18.34	10.999	22 45 16.8	+15.57	5 1.87	1.143	18 54 16.47
Tues.	5	19 3 42.09	10.980	22 38 49.4	16.70	5 29.06	1.123	18 58 13.03
Wed.	6	19 8 5.39	10.960	22 31 55.1	17.82	5 55.80	1.104	19 2 9.59
Thur.	7	19 12 28.19	10.940	22 24 34.1	+18.92	6 22.05	1.084	19 6 6.14
Frid.	8	19 16 50.49	10.918	22 16 46.7	20.02	6 47.79	1.062	19 10 2.70
Sat.	9	19 21 12.25	10.896	22 8 33.1	21.11	7 12.99	1.040	19 13 59.26
SUN.	10	19 25 33.44	10.872	21 59 53.5	+22.18	7 37.62	1.016	19 17 55.82
Mon.	11	19 29 54.06	10.847	21 50 48.2	23.25	8 1.67	0.991	19 21 52.38
Tues.	12	19 34 14.07	10.821	21 41 17.4	24.30	8 25.13	0.965	19 25 48.94
Wed.	13	19 38 33.46	10.795	21 31 21.5	+25.35	8 47.97	0.939	19 29 45.49
Thur.	14	19 42 52.22	10.768	21 21 0.8	26.39	9 10.17	0.912	19 33 42.05
Frid.	15	19 47 10.32	10.740	21 10 15.3	27.41	9 31.71	0.884	19 37 38.61
Sat.	16	19 51 27.75	10.712	20 59 5.6	+28.41	9 52.58	0.856	19 41 35.17
SUN.	17	19 55 41.50	10.683	20 47 31.9	29.40	10 12.78	0.827	19 45 31.72
Mon.	18	20 0 0.56	10.654	20 35 34.5	30.38	10 32.28	0.798	19 49 28.28
Tues.	19	20 4 15.92	10.625	20 23 13.7	+31.35	10 51.08	0.769	19 53 24.84
Wed.	20	20 8 30.56	10.595	20 10 29.9	32.30	11 9.16	0.739	19 57 21.40
Thur.	21	20 12 41.46	10.565	19 57 23.3	33.24	11 26.50	0.709	20 1 17.96
Frid.	22	20 16 57.62	10.534	19 43 54.4	+34.17	11 43.10	0.678	20 5 14.52
Sat.	23	20 21 10.03	10.502	19 30 3.4	35.08	11 58.96	0.646	20 9 11.07
SUN.	24	20 25 21.68	10.470	19 15 50.8	35.98	12 14.05	0.614	20 13 7.63
Mon.	25	20 29 32.55	10.437	19 1 16.8	+36.86	12 28.37	0.581	20 17 4.18
Tues.	26	20 33 42.64	10.403	18 46 21.9	37.72	12 41.90	0.547	20 21 0.74
Wed.	27	20 37 51.93	10.370	18 31 6.4	38.57	12 54.63	0.514	20 24 57.30
Thur.	28	20 42 0.42	10.337	18 15 30.7	+39.40	13 6.56	0.481	20 28 53.86
Frid.	29	20 46 8.09	10.303	17 59 35.3	40.21	13 17.68	0.447	20 32 50.41
Sat.	30	20 50 14.95	10.269	17 43 20.6	41.01	13 27.98	0.413	20 36 46.97
SUN.	31	20 54 20.98	10.234	17 26 46.9	41.79	13 37.45	0.378	20 40 43.53
Mon.	32	20 58 26.17	10.199	S. 17 9 54.6	+42.55	13 46.09	0.343	20 44 40.09

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	1	280° 35' 45.0"	35° 58.3"	152.96	— 0.66	9.9926724	— 1.0	5 16 41.19
2	2	281 36 56.2	37 9.3	152.95	0.70	9.9926708	— 0.3	5 12 45.28
3	3	282 38 7.1	38 20.0	152.94	0.70	9.9926710	+ 0.5	5 8 49.37
4	4	283 39 17.7	39 30.4	152.93	— 0.67	9.9926730	+ 1.2	5 4 53.46
5	5	284 40 27.9	40 40.4	152.92	0.61	9.9926769	2.0	5 0 57.54
6	6	285 41 37.7	41 50.1	152.90	0.53	9.9926828	2.9	4 57 1.63
7	7	286 42 47.1	42 59.3	152.88	— 0.42	9.9926908	+ 3.3	4 53 5.71
8	8	287 43 56.0	44 8.0	152.86	0.30	9.9927012	4.8	4 49 9.80
9	9	288 45 4.4	45 16.2	152.84	0.18	9.9927141	5.8	4 45 13.88
10	10	289 46 12.3	46 23.9	152.82	— 0.04	9.9927295	+ 6.9	4 41 17.97
11	11	290 47 19.6	47 31.1	152.79	+ 0.09	9.9927475	8.1	4 37 22.05
12	12	291 48 26.4	48 37.7	152.77	0.21	9.9927682	9.2	4 33 26.14
13	13	292 49 32.6	49 43.7	152.75	+ 0.31	9.9927917	+10.4	4 29 30.24
14	14	293 50 38.3	50 49.2	152.73	0.39	9.9928181	11.5	4 25 34.33
15	15	294 51 43.6	51 54.3	152.71	0.45	9.9928473	12.7	4 21 38.42
16	16	295 52 48.5	52 59.1	152.70	+ 0.17	9.9928792	+13.8	4 17 42.51
17	17	296 53 53.0	54 3.4	152.68	0.46	9.9929139	15.0	4 13 46.59
18	18	297 54 57.0	55 7.2	152.66	0.42	9.9929512	16.0	4 9 50.67
19	19	298 56 0.6	56 10.6	152.64	+ 0.35	9.9929911	+17.0	4 5 54.76
20	20	299 57 3.8	57 13.7	152.63	0.26	9.9930334	18.0	4 1 58.85
21	21	300 58 6.6	58 16.4	152.61	0.16	9.9930781	19.0	3 58 2.94
22	22	301 59 9.0	59 18.6	152.59	+ 0.04	9.9931250	+20.0	3 54 7.03
23	23	303 0 11.0	0 20.4	152.57	— 0.09	9.9931740	20.8	3 50 11.13
24	24	304 1 12.4	1 21.6	152.55	0.23	9.9932248	21.5	3 46 15.22
25	25	305 2 13.2	2 22.3	152.52	— 0.36	9.9932773	+22.2	3 42 19.30
26	26	306 3 13.4	3 22.4	152.49	0.47	9.9933314	22.9	3 38 23.38
27	27	307 4 12.9	4 21.7	152.46	0.56	9.9933871	23.5	3 34 27.47
28	28	308 5 11.6	5 20.2	152.43	— 0.62	9.9934442	+24.1	3 30 31.56
29	29	309 6 9.4	6 17.8	152.39	0.66	9.9935027	24.7	3 26 35.65
30	30	310 7 6.1	7 14.4	152.34	0.67	9.9935627	25.3	3 22 39.74
31	31	311 8 1.6	8 9.8	152.29	0.65	9.9936241	25.9	3 18 43.83
32	32	312 8 56.0	9 4.0	152.24	— 0.59	9.9936868	+26.5	3 14 47.92
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 14.0.								
								Diff. for 1 Hour, — 9 ^m .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

THE MOON'S									
Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 55.5"	15' 59.0"	58' 20.1"	+1.16	58' 33.1"	+1.02	^h 1 ^m 24.5	^m 2.43	^d 1.4
2	16 2.2	16 4.8	58 44.5	0.87	58 54.0	0.72	2 21.9	2.33	2.4
3	16 6.9	16 8.4	59 1.7	0.57	59 7.5	0.43	3 16.5	2.22	3.4
4	16 9.6	16 10.3	59 11.8	+0.29	59 14.4	+0.16	4 8.3	2.11	4.4
5	16 10.6	16 10.6	59 15.6	+0.05	59 15.5	-0.07	4 57.8	2.04	5.4
6	16 10.2	16 9.6	59 14.1	-0.17	59 11.6	0.26	5 46.0	2.01	6.4
7	16 8.6	16 7.4	59 8.1	-0.34	59 3.5	-0.43	6 34.5	2.05	7.4
8	16 5.8	16 4.0	58 57.9	0.51	58 51.3	0.60	7 24.3	2.13	8.4
9	16 2.0	15 59.6	58 43.7	0.68	58 35.1	0.77	8 16.6	2.24	9.4
10	15 57.0	15 54.0	58 25.4	-0.86	58 14.6	-0.95	9 11.6	2.34	10.4
11	15 50.8	15 47.3	58 2.7	1.04	57 49.7	1.13	10 9.1	2.41	11.4
12	15 43.4	15 39.4	57 35.7	1.21	57 20.8	1.29	11 7.4	2.41	12.4
13	15 35.1	15 30.7	57 5.1	-1.34	56 48.8	-1.38	12 4.8	2.33	13.4
14	15 26.1	15 21.5	56 32.0	1.41	56 15.0	1.41	12 59.2	2.19	14.4
15	15 16.9	15 12.4	55 58.1	1.40	55 41.6	1.36	13 49.8	2.05	15.4
16	15 8.1	15 4.0	55 25.7	-1.29	55 10.7	-1.21	14 36.5	1.89	16.4
17	15 0.2	14 56.8	54 56.8	1.10	54 44.4	0.97	15 19.9	1.76	17.4
18	14 53.9	14 51.5	54 33.7	0.81	54 25.0	0.65	16 0.9	1.68	18.4
19	14 49.7	14 48.5	54 18.3	-0.46	54 14.0	-0.26	16 40.6	1.65	19.4
20	14 48.0	14 48.1	54 12.0	-0.06	54 12.6	+0.16	17 20.1	1.66	20.4
21	14 49.0	14 50.6	54 15.8	+0.38	54 21.7	0.60	18 0.5	1.73	21.4
22	14 52.9	14 56.0	54 30.2	+0.82	54 41.3	+1.03	18 43.0	1.84	22.4
23	14 59.6	15 4.0	54 54.8	1.24	55 10.8	1.43	19 28.7	1.99	23.4
24	15 8.9	15 14.4	55 28.9	1.60	55 48.9	1.74	20 18.3	2.15	24.4
25	15 20.3	15 26.5	56 10.6	+1.87	56 33.6	+1.95	21 12.1	2.32	25.4
26	15 33.0	15 39.6	56 57.4	2.01	57 21.7	2.03	22 9.6	2.44	26.4
27	15 46.3	15 52.7	57 46.0	2.00	58 9.7	1.93	23 9.0	2.47	27.4
28	15 58.8	16 4.5	58 32.2	+1.81	58 53.2	+1.67	δ		28.4
29	16 9.7	16 14.2	59 12.1	1.48	59 28.5	1.25	0 8.4	2.43	29.4
30	16 17.8	16 20.7	59 42.0	1.00	59 52.5	0.75	1 5.8	2.33	0.8
31	16 22.7	16 23.7	59 59.7	+0.47	60 3.6	+0.20	2 0.4	2.22	1.8
32	16 23.9	16 23.3	60 4.4	-0.06	60 2.2	-0.30	2 52.2	2.12	2.8

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	^h 20 ^m 3 ^s 38.47	2.5087	S. 25° 4' 3.7"	5.684	0	^h 21 ^m 59 ^s 51.62	2.3148	S. 17° 42' 39.1"	12.243
1	20 6 8.92	2.5063	24 58 17.8	5.846	1	22 2 10.37	2.3101	17 30 21.4	12.347
2	20 8 39.23	2.5038	24 52 22.2	6.007	2	22 4 28.83	2.3054	17 17 57.5	12.449
3	20 11 9.38	2.5012	24 46 17.0	6.167	3	22 6 47.01	2.3007	17 5 27.5	12.550
4	20 13 39.37	2.4985	24 40 2.2	6.327	4	22 9 4.91	2.2960	16 52 51.5	12.650
5	20 16 9.20	2.4957	24 33 37.8	6.485	5	22 11 22.53	2.2913	16 40 9.5	12.748
6	20 18 38.85	2.4927	24 27 4.0	6.642	6	22 13 39.87	2.2867	16 27 21.7	12.844
7	20 21 8.32	2.4897	24 20 20.8	6.799	7	22 15 56.94	2.2822	16 14 28.2	12.939
8	20 23 37.61	2.4867	24 13 28.1	6.956	8	22 18 13.73	2.2776	16 1 29.0	13.033
9	20 26 6.72	2.4835	24 6 26.1	7.111	9	22 20 30.25	2.2731	15 48 24.2	13.125
10	20 28 35.63	2.4801	23 59 14.8	7.265	10	22 22 46.50	2.2686	15 35 14.0	13.215
11	20 31 4.33	2.4767	23 51 54.3	7.418	11	22 25 2.48	2.2642	15 21 58.4	13.304
12	20 33 32.83	2.4732	23 44 24.6	7.571	12	22 27 18.20	2.2597	15 8 37.5	13.392
13	20 36 1.12	2.4697	23 36 45.8	7.722	13	22 29 33.65	2.2553	14 55 11.4	13.478
14	20 38 29.19	2.4661	23 28 58.0	7.873	14	22 31 48.84	2.2510	14 41 40.2	13.562
15	20 40 57.05	2.4624	23 21 1.2	8.021	15	22 34 3.77	2.2467	14 28 4.0	13.644
16	20 43 24.68	2.4586	23 12 55.5	8.169	16	22 36 18.44	2.2424	14 14 22.9	13.726
17	20 45 52.08	2.4547	23 4 40.9	8.316	17	22 38 32.86	2.2382	14 0 36.9	13.806
18	20 48 19.24	2.4507	22 56 17.6	8.462	18	22 40 47.02	2.2340	13 46 46.2	13.884
19	20 50 46.16	2.4468	22 47 45.5	8.607	19	22 43 0.94	2.2299	13 32 50.8	13.961
20	20 53 12.85	2.4428	22 39 4.7	8.751	20	22 45 14.61	2.2258	13 18 50.9	14.036
21	20 55 39.30	2.4387	22 30 15.4	8.893	21	22 47 28.03	2.2217	13 4 46.5	14.110
22	20 58 5.50	2.4345	22 21 17.6	9.034	22	22 49 41.21	2.2177	12 50 37.7	14.182
23	21 0 31.44	2.4303	S. 22° 12' 11.3"	9.175	23	22 51 54.16	2.2138	S. 12° 36' 24.7"	14.252
SATURDAY 2.					MONDAY 4.				
0	21 2 57.13	2.4260	S. 22° 2' 56.6"	9.314	0	22 54 6.87	2.2099	S. 12° 22' 7.5"	14.321
1	21 5 22.56	2.4217	21 53 33.6	9.452	1	22 56 19.35	2.2061	12 7 46.2	14.389
2	21 7 47.73	2.4173	21 44 2.4	9.588	2	22 58 31.60	2.2024	11 53 20.8	14.456
3	21 10 12.63	2.4128	21 34 23.1	9.723	3	23 0 43.63	2.1987	11 38 51.5	14.520
4	21 12 37.26	2.4083	21 24 35.7	9.857	4	23 2 55.44	2.1950	11 24 18.4	14.582
5	21 15 1.63	2.4039	21 14 40.3	9.989	5	23 5 7.03	2.1914	11 9 41.6	14.644
6	21 17 25.73	2.3993	21 4 37.0	10.120	6	23 7 18.41	2.1879	10 55 1.1	14.704
7	21 19 49.55	2.3948	20 54 25.9	10.250	7	23 9 29.58	2.1845	10 40 17.1	14.763
8	21 22 13.10	2.3903	20 44 7.0	10.379	8	23 11 40.55	2.1811	10 25 29.6	14.820
9	21 24 36.38	2.3857	20 33 40.4	10.506	9	23 13 51.31	2.1777	10 10 38.7	14.875
10	21 26 59.38	2.3810	20 23 6.3	10.631	10	23 16 1.87	2.1744	9 55 44.6	14.929
11	21 29 22.10	2.3762	20 12 24.7	10.756	11	23 18 12.24	2.1712	9 40 47.3	14.982
12	21 31 44.53	2.3715	20 1 35.6	10.879	12	23 20 22.42	2.1681	9 25 46.8	15.033
13	21 34 6.68	2.3668	19 50 39.2	11.001	13	23 22 32.41	2.1650	9 10 43.3	15.082
14	21 36 28.55	2.3621	19 39 35.5	11.121	14	23 24 42.22	2.1621	8 55 36.9	15.130
15	21 38 50.14	2.3574	19 28 24.7	11.239	15	23 26 51.86	2.1592	8 40 27.7	15.177
16	21 41 11.44	2.3527	19 17 6.8	11.357	16	23 29 1.32	2.1563	8 25 15.7	15.222
17	21 43 32.46	2.3480	19 5 41.9	11.473	17	23 31 10.61	2.1535	8 10 1.1	15.265
18	21 45 53.20	2.3432	18 54 10.1	11.587	18	23 33 19.74	2.1508	7 54 43.9	15.307
19	21 48 13.65	2.3384	18 42 31.5	11.700	19	23 35 28.71	2.1482	7 39 24.2	15.348
20	21 50 33.81	2.3337	18 30 46.1	11.812	20	23 37 37.52	2.1456	7 24 2.1	15.387
21	21 52 53.69	2.3289	18 18 54.1	11.922	21	23 39 46.18	2.1431	7 8 37.7	15.425
22	21 55 13.28	2.3242	18 6 55.5	12.030	22	23 41 54.69	2.1407	6 53 11.1	15.461
23	21 57 32.59	2.3195	17 54 50.5	12.137	23	23 44 3.06	2.1384	6 37 42.4	15.496
24	21 59 51.62	2.3148	S. 17° 42' 30.1"	12.243	24	23 46 11.30	2.1361	S. 6° 22' 11.6"	15.530

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
0	23 46 11.30	2.1361	S. 6° 22' 11.6"	15.530	0	1 27 40.09	2.1941	N. 6° 14' 37.9"	15.466
1	23 48 19.40	2.1339	6 6 38.8	15.569	1	1 29 47.59	2.1959	6 30 4.9	15.439
2	23 50 27.37	2.1318	5 51 4.2	15.599	2	1 31 55.20	2.1977	6 45 29.7	15.395
3	23 52 35.22	2.1298	5 35 27.8	15.621	3	1 34 2.91	2.1995	7 0 52.3	15.357
4	23 54 42.95	2.1279	5 19 49.7	15.648	4	1 36 10.74	2.1315	7 16 12.6	15.318
5	23 56 50.57	2.1261	5 4 10.0	15.674	5	1 38 18.69	2.1336	7 31 30.5	15.277
6	23 58 58.08	2.1243	4 48 28.8	15.699	6	1 40 26.77	2.1358	7 46 45.8	15.234
7	0 1 5.48	2.1225	4 32 46.1	15.729	7	1 42 34.98	2.1380	8 1 58.5	15.190
8	0 3 12.78	2.1209	4 17 2.1	15.743	8	1 44 43.33	2.1402	8 17 8.6	15.146
9	0 5 19.99	2.1194	4 1 16.9	15.763	9	1 46 51.81	2.1426	8 32 16.0	15.100
10	0 7 27.11	2.1179	3 45 30.5	15.783	10	1 49 0.44	2.1451	8 47 20.6	15.059
11	0 9 34.14	2.1165	3 29 42.9	15.802	11	1 51 9.22	2.1476	9 2 22.2	15.009
12	0 11 41.09	2.1152	3 13 54.3	15.818	12	1 53 18.15	2.1502	9 17 20.8	14.951
13	0 13 47.96	2.1140	2 58 4.8	15.839	13	1 55 27.24	2.1528	9 32 16.3	14.899
14	0 15 54.77	2.1129	2 42 14.5	15.845	14	1 57 36.49	2.1556	9 47 8.7	14.846
15	0 18 1.51	2.1118	2 26 23.4	15.857	15	1 59 45.91	2.1584	10 1 57.8	14.791
16	0 20 8.19	2.1109	2 10 31.6	15.868	16	2 1 55.49	2.1612	10 16 43.6	14.735
17	0 22 14.82	2.1100	1 54 39.2	15.877	17	2 4 5.25	2.1642	10 31 26.0	14.677
18	0 24 21.39	2.1092	1 38 46.4	15.884	18	2 6 15.19	2.1672	10 46 4.9	14.618
19	0 26 27.92	2.1085	1 22 53.2	15.890	19	2 8 25.31	2.1709	11 0 40.2	14.557
20	0 28 34.41	2.1078	1 6 59.6	15.896	20	2 10 35.62	2.1733	11 15 11.8	14.496
21	0 30 40.86	2.1072	0 51 5.7	15.900	21	2 12 46.11	2.1765	11 29 39.7	14.433
22	0 32 47.28	2.1068	0 35 11.6	15.909	22	2 14 56.80	2.1796	11 44 3.8	14.368
23	0 34 53.68	2.1065	S. 0 19 17.5	15.902	23	2 17 7.69	2.1831	N. 11 58 23.9	14.309
WEDNESDAY 6.					FRIDAY 8.				
0	0 37 0.06	2.1069	S. 0 3 23.4	15.901	0	2 19 18.77	2.1864	N. 12 12 40.0	14.234
1	0 39 6.42	2.1059	N. 0 12 30.6	15.899	1	2 21 30.06	2.1899	12 26 52.0	14.185
2	0 41 12.77	2.1058	0 28 24.5	15.896	2	2 23 41.56	2.1933	12 40 59.8	14.095
3	0 43 19.12	2.1058	0 44 18.1	15.891	3	2 25 53.26	2.1968	12 55 3.4	14.034
4	0 45 25.47	2.1058	1 0 11.4	15.885	4	2 28 5.18	2.2005	13 9 2.7	13.951
5	0 47 31.82	2.1059	1 16 4.3	15.877	5	2 30 17.32	2.2042	13 22 57.5	13.876
6	0 49 38.18	2.1061	1 31 56.6	15.867	6	2 32 29.69	2.2080	13 36 47.8	13.800
7	0 51 44.55	2.1064	1 47 48.3	15.857	7	2 34 42.28	2.2117	13 50 33.5	13.729
8	0 53 50.95	2.1068	2 3 39.4	15.846	8	2 36 55.10	2.2155	14 4 14.5	13.644
9	0 55 57.37	2.1072	2 19 20.8	15.839	9	2 39 8.14	2.2193	14 17 50.8	13.564
10	0 58 3.82	2.1078	2 35 19.3	15.817	10	2 41 21.42	2.2239	14 31 22.2	13.489
11	1 0 10.31	2.1085	2 51 7.8	15.801	11	2 43 34.93	2.2272	14 44 48.7	13.399
12	1 2 16.84	2.1092	3 6 55.4	15.784	12	2 45 48.68	2.2312	14 58 10.1	13.314
13	1 4 23.41	2.1099	3 22 41.9	15.765	13	2 48 2.67	2.2359	15 11 26.4	13.229
14	1 6 30.03	2.1108	3 38 27.2	15.745	14	2 50 16.91	2.2393	15 24 37.6	13.149
15	1 8 36.71	2.1118	3 54 11.3	15.723	15	2 52 31.39	2.2434	15 37 43.5	13.053
16	1 10 43.45	2.1128	4 9 54.0	15.700	16	2 54 46.12	2.2476	15 50 44.0	12.963
17	1 12 50.25	2.1139	4 25 35.3	15.676	17	2 57 1.10	2.2518	16 3 39.1	12.872
18	1 14 57.12	2.1151	4 41 15.1	15.650	18	2 59 16.33	2.2560	16 16 28.6	12.778
19	1 17 4.06	2.1164	4 56 53.3	15.623	19	3 1 31.82	2.2602	16 29 12.5	12.684
20	1 19 11.09	2.1178	5 12 29.9	15.595	20	3 3 47.56	2.2645	16 41 50.7	12.589
21	1 21 18.20	2.1192	5 28 4.7	15.565	21	3 6 3.56	2.2688	16 54 23.2	12.492
22	1 23 25.40	2.1208	5 43 37.7	15.534	22	3 8 19.82	2.2732	17 6 49.8	12.393
23	1 25 32.70	2.1224	5 59 8.8	15.502	23	3 10 36.35	2.2776	17 19 10.4	12.293
24	1 27 40.09	2.1241	N. 6 14 37.9	15.468	24	3 12 53.14	2.2820	N. 17 31 25.0	12.192

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	h m s	"	N. 17° 31' 25.0"	12.102	0	h m s	"	N. 24° 55' 28.6"	5.865
1	3 12 53.14	2.9890	17 43 33.5	12.090	1	5 9 50.85	2.4743	25 1 15.8	5.708
2	3 17 27.51	2.9908	17 55 35.8	11.986	2	5 12 19.53	2.4793	25 6 53.6	5.551
3	3 19 45.09	2.9952	18 7 31.8	11.881	3	5 14 48.36	2.4817	25 12 21.9	5.392
4	3 22 2.94	2.9997	18 19 21.5	11.774	4	5 17 17.33	2.4839	25 17 40.7	5.233
5	3 24 21.06	2.3042	18 31 4.7	11.666	5	5 19 46.43	2.4861	25 22 49.9	5.074
6	3 26 39.45	2.3087	18 42 41.4	11.557	6	5 22 15.66	2.4882	25 27 49.6	4.914
7	3 28 58.11	2.3132	18 54 11.5	11.446	7	5 24 45.01	2.4909	25 32 39.6	4.753
8	3 31 17.04	2.3177	19 5 34.9	11.334	8	5 27 14.48	2.4920	25 37 20.0	4.592
9	3 33 36.23	2.3222	19 16 51.6	11.221	9	5 29 44.05	2.4937	25 41 50.7	4.431
10	3 35 55.70	2.3267	19 28 1.4	11.106	10	5 32 13.72	2.4953	25 46 11.7	4.268
11	3 38 15.44	2.3312	19 39 4.3	10.990	11	5 34 43.49	2.4968	25 50 22.9	4.106
12	3 40 35.45	2.3357	19 50 0.2	10.872	12	5 37 13.34	2.4982	25 54 24.4	3.943
13	3 42 55.73	2.3402	20 0 49.0	10.753	13	5 39 43.27	2.4995	25 58 16.1	3.779
14	3 45 16.27	2.3447	20 11 30.6	10.633	14	5 42 13.28	2.5007	26 1 57.9	3.615
15	3 47 37.09	2.3492	20 22 5.0	10.512	15	5 44 43.35	2.5017	26 5 29.9	3.452
16	3 49 58.18	2.3537	20 32 32.1	10.390	16	5 47 13.48	2.5026	26 8 52.1	3.289
17	3 52 19.53	2.3581	20 42 51.8	10.266	17	5 49 43.66	2.5033	26 12 4.4	3.122
18	3 54 41.15	2.3625	20 53 4.0	10.141	18	5 52 13.88	2.5040	26 15 6.8	2.959
19	3 57 3.03	2.3669	21 3 8.7	10.014	19	5 54 44.14	2.5046	26 17 59.3	2.793
20	3 59 25.18	2.3714	21 13 5.7	9.886	20	5 57 14.43	2.5049	26 20 41.9	2.626
21	4 1 47.60	2.3758	21 22 55.0	9.757	21	5 59 44.73	2.5051	26 23 14.6	2.460
22	4 4 10.28	2.3801	21 32 36.6	9.627	22	6 2 15.04	2.5052	26 25 37.3	2.296
23	4 6 33.21	2.3844	N. 21° 42' 10.3"	9.496	23	6 4 45.36	2.5053	N. 26° 27' 50.1"	2.131
SUNDAY 10.					TUESDAY 12.				
0	4 8 56.40	2.3887	N. 21° 51' 36.1"	9.363	0	6 7 15.68	2.5052	N. 26° 29' 53.0"	1.965
1	4 11 19.85	2.3929	22 0 53.9	9.230	1	6 9 45.99	2.5050	26 31 45.9	1.798
2	4 13 43.55	2.3971	22 10 3.7	9.095	2	6 12 16.28	2.5045	26 33 28.9	1.634
3	4 16 7.50	2.4012	22 19 5.3	8.959	3	6 14 46.53	2.5039	26 35 2.0	1.468
4	4 18 31.70	2.4053	22 27 58.7	8.822	4	6 17 16.75	2.5033	26 36 25.1	1.302
5	4 20 56.14	2.4093	22 36 43.9	8.683	5	6 19 46.93	2.5026	26 37 38.3	1.137
6	4 23 20.82	2.4133	22 45 20.7	8.543	6	6 22 17.06	2.5017	26 38 41.5	0.971
7	4 25 45.74	2.4173	22 53 49.1	8.403	7	6 24 47.13	2.5007	26 39 34.8	0.806
8	4 28 10.90	2.4212	23 2 9.1	8.261	8	6 27 17.14	2.4995	26 40 18.2	0.643
9	4 30 36.29	2.4251	23 10 20.5	8.118	9	6 29 47.07	2.4981	26 40 51.8	0.478
10	4 33 1.91	2.4289	23 18 23.3	7.975	10	6 32 16.91	2.4967	26 41 15.5	0.313
11	4 35 27.76	2.4327	23 26 17.5	7.832	11	6 34 46.67	2.4952	26 41 29.3	+ 0.148
12	4 37 53.83	2.4363	23 34 3.1	7.687	12	6 37 16.23	2.4934	26 41 33.3	- 0.016
13	4 40 20.12	2.4399	23 41 39.9	7.539	13	6 39 45.88	2.4916	26 41 27.4	0.178
14	4 42 46.62	2.4434	23 49 7.8	7.390	14	6 42 15.32	2.4897	26 41 11.8	0.343
15	4 45 13.33	2.4468	23 56 26.7	7.241	15	6 44 44.64	2.4876	26 40 46.4	0.505
16	4 47 40.24	2.4502	24 3 36.7	7.092	16	6 47 13.83	2.4853	26 40 11.2	0.667
17	4 50 7.35	2.4535	24 10 37.7	6.942	17	6 49 42.88	2.4829	26 39 26.3	0.829
18	4 52 34.66	2.4567	24 17 29.7	6.791	18	6 52 11.78	2.4804	26 38 31.7	0.990
19	4 55 2.16	2.4598	24 24 12.6	6.638	19	6 54 40.53	2.4778	26 37 27.5	1.151
20	4 57 29.84	2.4628	24 30 46.3	6.485	20	6 57 9.12	2.4752	26 36 13.6	1.312
21	4 59 57.70	2.4658	24 37 10.8	6.332	21	6 59 37.55	2.4723	26 34 50.1	1.471
22	5 2 25.74	2.4687	24 43 26.1	6.177	22	7 2 5.80	2.4693	26 33 17.1	1.630
23	5 4 53.95	2.4715	24 49 32.0	6.021	23	7 4 33.87	2.4663	26 31 34.5	1.789
24	5 7 22.32	2.4742	N. 24° 55' 28.6"	5.865	24	7 7 1.76	2.4632	N. 26° 29' 42.4"	1.947

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	7 7 1.76	2.4632	N.26° 29' 42.4"	1.947	0	8 59 47.61	2.2107	N.22° 12' 2.5"	8.362
1	7 9 29.45	2.4598	26 27 40.9	2.104	1	9 2 0.06	2.2043	22 3 37.7	8.465
2	7 11 56.93	2.4563	26 25 30.0	2.260	2	9 4 12.13	2.1980	21 55 6.7	8.568
3	7 14 24.20	2.4528	26 23 9.7	2.416	3	9 6 23.82	2.1917	21 46 29.5	8.671
4	7 16 51.26	2.4491	26 20 40.1	2.571	4	9 8 35.13	2.1853	21 37 46.2	8.771
5	7 19 18.09	2.4453	26 18 1.2	2.724	5	9 10 46.06	2.1790	21 28 57.0	8.869
6	7 21 44.69	2.4414	26 15 13.2	2.877	6	9 12 56.61	2.1727	21 20 1.9	8.967
7	7 24 11.06	2.4375	26 12 16.0	3.030	7	9 15 6.78	2.1663	21 11 1.0	9.063
8	7 26 37.19	2.4333	26 9 9.6	3.182	8	9 17 16.57	2.1600	21 1 54.3	9.159
9	7 29 3.06	2.4291	26 5 54.1	3.333	9	9 19 25.98	2.1537	20 52 41.9	9.253
10	7 31 28.68	2.4248	26 2 29.6	3.483	10	9 21 35.01	2.1473	20 43 23.9	9.346
11	7 33 54.04	2.4204	25 58 56.1	3.632	11	9 23 43.66	2.1410	20 34 0.4	9.437
12	7 36 19.13	2.4159	25 55 13.8	3.779	12	9 25 51.93	2.1347	20 24 31.4	9.527
13	7 38 43.95	2.4113	25 51 22.6	3.926	13	9 27 59.82	2.1284	20 14 57.1	9.616
14	7 41 8.49	2.4067	25 47 22.6	4.073	14	9 30 7.34	2.1222	20 5 17.5	9.704
15	7 43 32.75	2.4019	25 43 13.8	4.219	15	9 32 14.49	2.1161	19 55 32.6	9.791
16	7 45 56.72	2.3971	25 38 56.3	4.362	16	9 34 21.27	2.1098	19 45 42.6	9.876
17	7 48 20.40	2.3922	25 34 30.3	4.504	17	9 36 27.67	2.1036	19 35 47.5	9.960
18	7 50 43.78	2.3871	25 29 55.8	4.646	18	9 38 33.70	2.0974	19 25 47.4	10.042
19	7 53 6.85	2.3820	25 25 12.8	4.787	19	9 40 39.36	2.0913	19 15 42.4	10.124
20	7 55 29.62	2.3769	25 20 21.3	4.926	20	9 42 44.66	2.0852	19 5 32.5	10.204
21	7 57 52.08	2.3717	25 15 21.4	5.067	21	9 44 49.59	2.0792	18 55 17.9	10.283
22	8 0 14.22	2.3663	25 10 13.2	5.205	22	9 46 54.16	2.0732	18 44 58.6	10.361
23	8 2 36.04	2.3609	N.25 4 56.8	5.341	23	9 48 58.37	2.0672	N.18 34 34.6	10.437
THURSDAY 14.					SATURDAY 16.				
0	8 4 57.53	2.3554	N.24 59 32.3	5.476	0	9 51 2.22	2.0612	N.18 24 6.1	10.512
1	8 7 18.69	2.3499	24 53 59.7	5.611	1	9 53 5.71	2.0552	18 13 33.1	10.587
2	8 9 39.52	2.3443	24 48 19.0	5.744	2	9 55 8.85	2.0493	18 2 55.7	10.659
3	8 12 0.01	2.3387	24 42 30.4	5.876	3	9 57 11.63	2.0434	17 52 14.0	10.731
4	8 14 20.16	2.3330	24 36 31.9	6.007	4	9 59 14.06	2.0376	17 41 28.0	10.802
5	8 16 39.97	2.3272	24 30 29.6	6.136	5	10 1 16.15	2.0319	17 30 37.8	10.872
6	8 18 59.43	2.3214	24 24 17.6	6.264	6	10 3 17.89	2.0262	17 19 43.4	10.940
7	8 21 18.54	2.3156	24 17 57.9	6.392	7	10 5 19.29	2.0205	17 8 45.0	11.007
8	8 23 37.30	2.3097	24 11 30.6	6.518	8	10 7 20.35	2.0148	16 57 42.6	11.072
9	8 25 55.70	2.3037	24 4 55.8	6.643	9	10 9 21.06	2.0091	16 46 36.3	11.137
10	8 28 13.75	2.2977	23 58 13.5	6.767	10	10 11 21.44	2.0036	16 35 26.2	11.200
11	8 30 31.43	2.2917	23 51 23.8	6.888	11	10 13 21.49	1.9981	16 24 12.3	11.263
12	8 32 48.75	2.2856	23 44 26.9	7.008	12	10 15 21.21	1.9927	16 12 54.6	11.325
13	8 35 5.70	2.2795	23 37 22.8	7.128	13	10 17 20.61	1.9872	16 1 33.3	11.385
14	8 37 22.29	2.2734	23 30 11.5	7.247	14	10 19 19.68	1.9818	15 50 8.4	11.444
15	8 39 38.51	2.2672	23 22 53.1	7.365	15	10 21 18.43	1.9765	15 38 40.0	11.502
16	8 41 54.36	2.2610	23 15 27.7	7.480	16	10 23 16.86	1.9713	15 27 8.2	11.559
17	8 44 9.83	2.2547	23 7 55.5	7.594	17	10 25 14.98	1.9661	15 15 32.9	11.616
18	8 46 24.93	2.2485	23 0 16.4	7.708	18	10 27 12.79	1.9609	15 3 54.3	11.671
19	8 48 39.65	2.2422	22 52 30.5	7.821	19	10 29 10.29	1.9558	14 52 12.4	11.724
20	8 50 54.00	2.2360	22 44 37.9	7.931	20	10 31 7.49	1.9507	14 40 27.4	11.776
21	8 53 7.97	2.2297	22 36 38.8	8.039	21	10 33 4.38	1.9457	14 28 39.3	11.828
22	8 55 21.56	2.2234	22 28 33.2	8.148	22	10 35 0.97	1.9408	14 16 48.1	11.879
23	8 57 34.77	2.2171	22 20 21.1	8.256	23	10 36 57.27	1.9360	14 4 53.8	11.929
24	8 59 47.61	2.2107	N.22 12 2.5	8.362	24	10 38 53.29	1.9312	N.13 52 56.6	11.977

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	h m s	s	N. 13° 52' 56.6"	11.977	0	h m s	s	N. 3° 39' 18.6"	13.974
1	10 38 53.29	1.9319	13 40 56.5	12.095	1	12 7 15.34	1.7771	3 26 1.9	13.983
2	10 40 49.02	1.9264	13 28 53.6	12.078	2	12 9 1.92	1.7756	3 12 44.7	13.991
3	10 42 44.46	1.9217	13 16 47.9	12.117	3	12 10 48.42	1.7742	2 59 27.0	13.998
4	10 44 39.62	1.9171	13 4 39.5	12.163	4	12 12 34.83	1.7728	2 46 8.9	13.998
5	10 46 34.51	1.9125	12 52 28.4	12.206	5	12 14 21.16	1.7716	2 32 50.5	13.998
6	10 48 29.12	1.9079	12 40 14.8	12.248	6	12 16 7.42	1.7704	2 19 31.9	13.998
7	10 50 23.46	1.9035	12 27 58.7	12.290	7	12 17 53.61	1.7692	2 6 13.0	13.998
8	10 52 17.54	1.8992	12 15 40.0	12.332	8	12 19 39.73	1.7682	1 52 53.8	13.998
9	10 54 11.36	1.8948	12 3 18.9	12.373	9	12 21 25.80	1.7673	1 39 34.3	13.998
10	10 56 4.91	1.8904	11 50 55.4	12.411	10	12 23 11.81	1.7664	1 26 14.7	13.998
11	10 57 58.21	1.8863	11 38 29.6	12.448	11	12 24 57.77	1.7656	1 12 55.0	13.998
12	10 59 51.26	1.8821	11 26 1.6	12.485	12	12 26 43.68	1.7648	0 59 35.3	13.998
13	11 1 44.07	1.8781	11 13 31.4	12.522	13	12 28 29.54	1.7640	0 46 15.5	13.998
14	11 3 36.63	1.8741	11 0 59.0	12.557	14	12 30 15.36	1.7634	0 32 55.7	13.998
15	11 5 28.96	1.8703	10 48 24.5	12.591	15	12 32 1.15	1.7630	0 19 36.0	13.998
16	11 7 21.05	1.8663	10 35 48.0	12.624	16	12 33 46.92	1.7626	N. 0 6 16.3	13.997
17	11 9 12.91	1.8625	10 23 9.6	12.657	17	12 35 32.66	1.7621	S. 0 7 3.3	13.995
18	11 11 4.55	1.8587	10 10 29.2	12.689	18	12 37 18.37	1.7618	0 20 22.7	13.992
19	11 12 55.96	1.8550	9 57 46.9	12.720	19	12 39 4.07	1.7616	0 33 41.9	13.992
20	11 14 47.15	1.8514	9 45 2.8	12.750	20	12 40 49.76	1.7614	0 47 0.9	13.992
21	11 16 38.13	1.8479	9 32 16.9	12.779	21	12 42 35.44	1.7613	1 0 19.6	13.992
22	11 18 28.90	1.8444	9 19 29.3	12.808	22	12 44 21.11	1.7612	1 13 38.0	13.992
23	11 20 19.46	1.8410	N. 9 6 39.9	12.836	23	12 46 6.78	1.7612	S. 1 26 56.1	13.992
24	11 22 9.82	1.8377				12 47 52.46	1.7614		
MONDAY 18.					WEDNESDAY 20.				
0	h m s	s	N. 8 53 48.9	12.862	0	h m s	s	S. 1 40 13.8	13.992
1	11 23 59.98	1.8344	8 40 56.4	12.888	1	12 49 38.15	1.7616	1 53 31.1	13.984
2	11 25 49.95	1.8319	8 28 2.3	12.914	2	12 51 23.85	1.7618	2 6 47.9	13.976
3	11 27 39.73	1.8291	8 15 6.7	12.938	3	12 53 9.57	1.7622	2 20 4.2	13.967
4	11 29 29.32	1.8260	8 2 9.7	12.962	4	12 54 55.32	1.7627	2 33 20.0	13.958
5	11 31 18.73	1.8230	7 49 11.3	12.984	5	12 56 41.09	1.7632	2 46 35.2	13.948
6	11 33 7.96	1.8191	7 36 11.6	13.006	6	12 58 26.90	1.7637	2 59 49.8	13.938
7	11 34 57.02	1.8163	7 23 10.6	13.027	7	13 0 12.74	1.7644	3 13 3.8	13.927
8	11 36 45.91	1.8135	7 10 8.4	13.048	8	13 3 58.62	1.7651	3 26 17.1	13.915
9	11 38 34.64	1.8107	6 57 4.9	13.068	9	13 3 44.55	1.7658	3 39 29.6	13.903
10	11 40 23.20	1.8081	6 44 0.2	13.087	10	13 5 30.52	1.7667	3 52 41.4	13.890
11	11 42 11.61	1.8056	6 30 54.5	13.104	11	13 7 16.55	1.7677	4 5 52.4	13.877
12	11 43 59.87	1.8031	6 17 47.7	13.121	12	13 9 2.64	1.7687	4 19 2.6	13.862
13	11 45 47.98	1.8007	6 4 39.9	13.138	13	13 10 48.79	1.7697	4 32 11.9	13.847
14	11 47 35.95	1.7983	5 51 31.1	13.155	14	13 12 35.00	1.7708	4 45 20.3	13.832
15	11 49 23.78	1.7960	5 38 21.3	13.170	15	13 14 21.29	1.7721	4 58 27.7	13.815
16	11 51 11.47	1.7938	5 25 10.7	13.184	16	13 16 7.66	1.7735	5 11 34.1	13.798
17	11 52 59.03	1.7917	5 11 59.2	13.198	17	13 17 54.11	1.7748	5 24 39.5	13.781
18	11 54 46.47	1.7896	4 58 46.9	13.212	18	13 19 40.64	1.7762	5 37 43.9	13.764
19	11 56 33.78	1.7875	4 45 33.8	13.224	19	13 21 27.26	1.7778	5 50 47.2	13.745
20	12 0 20.97	1.7856	4 32 20.0	13.235	20	13 23 13.98	1.7795	6 3 49.3	13.725
21	12 0 8.05	1.7838	4 19 5.6	13.246	21	13 25 0.80	1.7811	6 16 50.2	13.705
22	12 1 55.03	1.7821	4 5 50.5	13.257	22	13 26 47.71	1.7828	6 29 49.9	13.684
23	12 3 41.90	1.7804	3 52 34.8	13.266	23	13 28 34.73	1.7847	6 42 48.3	13.663
24	12 5 28.67	1.7787	N. 3 39 18.6	13.274	24	13 30 21.87	1.7866	S. 6 55 45.4	13.641
	12 7 15.34	1.7771				13 32 9.12	1.7885		

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	h m s	s	° ' "	"	0	h m s	s	° ' "	"
1	13 32 9.12	1.7885	S. 6 55 45.4	12.941	1	15 1 38.66	1.9670	S. 16 37 53.1	11.007
2	13 33 56.49	1.7906	7 8 41.2	12.918	2	15 3 36.84	1.9734	16 48 51.7	10.946
3	13 35 43.99	1.7927	7 21 35.6	12.885	3	15 5 35.35	1.9778	16 59 46.6	10.884
4	13 37 31.61	1.7948	7 34 28.6	12.873	4	15 7 34.18	1.9832	17 10 37.8	10.821
5	13 39 19.37	1.7971	7 47 20.2	12.847	5	15 9 33.34	1.9888	17 21 25.1	10.756
6	13 41 7.27	1.7995	8 0 10.2	12.821	6	15 11 32.84	1.9945	17 32 8.5	10.691
7	13 42 55.31	1.8019	8 12 58.7	12.795	7	15 13 32.68	2.0002	17 42 48.0	10.625
8	13 44 43.50	1.8044	8 25 45.6	12.768	8	15 15 32.86	2.0058	17 53 23.5	10.557
9	13 46 31.84	1.8069	8 38 30.9	12.741	9	15 17 33.38	2.0115	18 3 54.9	10.488
10	13 48 20.33	1.8095	8 51 14.5	12.713	10	15 19 34.24	2.0173	18 14 22.1	10.418
11	13 50 8.98	1.8123	9 3 56.4	12.684	11	15 21 35.45	2.0232	18 24 45.1	10.348
12	13 51 57.80	1.8151	9 16 36.6	12.655	12	15 23 37.02	2.0291	18 35 3.9	10.277
13	13 53 46.79	1.8179	9 29 15.0	12.624	13	15 25 38.94	2.0350	18 45 18.4	10.205
14	13 55 35.95	1.8208	9 41 51.5	12.593	14	15 27 41.22	2.0410	18 55 28.5	10.131
15	13 57 25.29	1.8238	9 54 26.2	12.562	15	15 29 43.86	2.0470	19 5 34.1	10.055
16	13 59 14.81	1.8268	10 6 59.0	12.530	16	15 31 46.86	2.0531	19 15 35.1	9.979
17	14 1 4.51	1.8300	10 19 29.8	12.496	17	15 33 50.23	2.0593	19 25 31.5	9.902
18	14 2 54.41	1.8332	10 31 58.5	12.462	18	15 35 53.07	2.0655	19 35 23.3	9.824
19	14 4 44.50	1.8365	10 44 25.2	12.427	19	15 37 58.09	2.0717	19 45 10.4	9.745
20	14 6 34.79	1.8399	10 56 49.8	12.392	20	15 40 2.58	2.0780	19 54 52.7	9.664
21	14 8 25.29	1.8433	11 9 12.2	12.356	21	15 42 7.45	2.0842	20 4 30.1	9.582
22	14 10 15.99	1.8467	11 21 32.5	12.320	22	15 44 12.69	2.0905	20 14 2.5	9.498
23	14 12 6.90	1.8503	11 33 50.6	12.282	23	15 46 18.31	2.0969	20 23 29.9	9.414
24	14 13 58.03	1.8540	S. 11 46 6.3	12.243	24	15 48 24.32	2.1034	S. 20 32 52.2	9.329
FRIDAY 22.					SUNDAY 24.				
0	h m s	s	° ' "	"	0	h m s	s	° ' "	"
1	14 15 49.38	1.8577	S. 11 58 19.7	12.203	1	15 50 30.72	2.1099	S. 20 42 9.4	9.243
2	14 17 40.95	1.8615	12 10 30.7	12.163	2	15 52 37.51	2.1163	20 51 21.4	9.156
3	14 19 32.76	1.8654	12 22 39.3	12.123	3	15 54 44.68	2.1227	21 0 28.1	9.067
4	14 21 24.80	1.8693	12 34 45.5	12.082	4	15 56 52.24	2.1292	21 9 29.4	8.976
5	14 23 17.07	1.8732	12 46 49.1	12.039	5	15 59 0.19	2.1358	21 18 25.2	8.885
6	14 25 9.59	1.8773	12 58 50.1	11.996	6	16 1 8.54	2.1425	21 27 15.6	8.793
7	14 27 2.35	1.8814	13 10 48.6	11.952	7	16 3 17.29	2.1491	21 36 0.4	8.699
8	14 28 55.36	1.8856	13 22 44.4	11.907	8	16 5 26.44	2.1557	21 44 39.5	8.604
9	14 30 48.63	1.8899	13 34 37.4	11.860	9	16 7 35.98	2.1623	21 53 12.9	8.508
10	14 32 42.15	1.8943	13 46 27.6	11.813	10	16 9 45.92	2.1690	22 1 40.5	8.411
11	14 34 35.94	1.8987	13 58 15.0	11.766	11	16 11 56.26	2.1757	22 10 2.2	8.312
12	14 36 29.99	1.9031	14 9 59.6	11.719	12	16 14 7.01	2.1825	22 18 18.0	8.212
13	14 38 24.31	1.9076	14 21 41.3	11.670	13	16 16 18.16	2.1892	22 26 27.7	8.111
14	14 40 18.90	1.9122	14 33 20.0	11.619	14	16 18 29.71	2.1959	22 34 31.3	8.008
15	14 42 13.77	1.9169	14 44 55.6	11.568	15	16 20 41.67	2.2026	22 42 28.7	7.905
16	14 44 8.93	1.9217	14 56 28.1	11.516	16	16 22 54.03	2.2093	22 50 19.9	7.800
17	14 46 4.37	1.9264	15 7 57.5	11.463	17	16 25 6.79	2.2161	22 58 4.7	7.693
18	14 48 0.10	1.9313	15 19 23.7	11.410	18	16 27 19.96	2.2228	23 5 43.1	7.586
19	14 49 56.13	1.9362	15 30 46.7	11.356	19	16 29 33.53	2.2296	23 13 15.0	7.477
20	14 51 52.45	1.9412	15 42 6.4	11.300	20	16 31 47.51	2.2363	23 20 40.3	7.367
21	14 53 49.08	1.9463	15 53 22.7	11.243	21	16 34 1.89	2.2431	23 27 59.0	7.256
22	14 55 46.01	1.9514	16 4 35.6	11.186	22	16 36 16.68	2.2498	23 35 11.0	7.143
23	14 57 43.25	1.9566	16 15 45.0	11.127	23	16 38 31.87	2.2566	23 42 16.2	7.029
24	14 59 40.80	1.9618	16 26 50.9	11.067	24	16 40 47.47	2.2633	23 49 14.5	6.913
25	15 1 38.66	1.9670	S. 16 37 53.1	11.007			2.2700	S. 23 56 5.8	6.797

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	^h 16 ^m 43 ^s 3.47	2.2700	S. 23° 56' 5.8"	6.797	0	^h 18 ^m 38 ^s 50.75	2.5949	S. 26° 44' 41.8"	6.191
1	16 45 19.87	2.2767	24 2 50.1	6.879	1	18 41 22.29	2.5971	26 44 25.3	6.359
2	16 47 36.67	2.2833	24 9 27.3	6.560	2	18 43 54.00	2.5999	26 43 58.7	6.526
3	16 49 53.87	2.2900	24 15 57.3	6.439	3	18 46 25.88	2.5398	26 43 22.0	6.697
4	16 52 11.47	2.2966	24 22 20.0	6.317	4	18 48 57.91	2.5350	26 42 35.1	6.867
5	16 54 29.46	2.3032	24 28 35.4	6.195	5	18 51 30.06	2.5372	26 41 37.9	7.038
6	16 56 47.85	2.3097	24 34 43.4	6.071	6	18 54 2.38	2.5394	26 40 30.5	7.209
7	16 59 6.63	2.3162	24 40 43.9	5.945	7	18 56 34.81	2.5416	26 39 12.9	7.380
8	17 1 25.80	2.3227	24 46 36.8	5.817	8	18 59 7.37	2.5438	26 37 44.9	7.559
9	17 3 45.36	2.3292	24 52 22.0	5.689	9	19 1 40.04	2.5453	26 36 6.6	7.734
10	17 6 5.31	2.3357	24 57 59.5	5.560	10	19 4 12.81	2.5470	26 34 18.0	7.897
11	17 8 25.64	2.3420	25 3 29.2	5.439	11	19 6 45.68	2.5486	26 32 19.0	8.069
12	17 10 46.35	2.3483	25 8 51.0	5.297	12	19 9 18.64	2.5499	26 30 9.7	8.242
13	17 13 7.44	2.3546	25 14 4.9	5.164	13	19 11 51.67	2.5511	26 27 50.0	8.415
14	17 15 28.90	2.3608	25 19 10.7	5.029	14	19 14 24.77	2.5522	26 25 19.9	8.586
15	17 17 50.74	2.3671	25 24 8.4	4.894	15	19 16 57.94	2.5533	26 22 39.4	8.762
16	17 20 12.95	2.3732	25 28 58.0	4.757	16	19 19 31.16	2.5540	26 19 48.5	8.935
17	17 22 35.52	2.3792	25 33 39.3	4.618	17	19 22 4.42	2.5547	26 16 47.2	9.108
18	17 24 58.46	2.3852	25 38 12.2	4.478	18	19 24 37.72	2.5552	26 13 35.5	9.282
19	17 27 21.75	2.3912	25 42 36.7	4.338	19	19 27 11.04	2.5556	26 10 13.4	9.455
20	17 29 45.40	2.3971	25 46 52.8	4.197	20	19 29 44.39	2.5559	26 6 40.9	9.629
21	17 32 9.40	2.4029	25 51 0.4	4.055	21	19 32 17.75	2.5560	26 2 57.9	9.803
22	17 34 33.74	2.4086	25 54 59.4	3.911	22	19 34 51.11	2.5559	25 59 4.5	9.976
23	17 36 58.43	2.4143	S. 25 58 49.7	3.765	23	19 37 24.46	2.5557	S. 25 55 0.8	4.148
TUESDAY 26.					THURSDAY 28.				
0	17 39 23.46	2.4199	S. 26 2 31.2	3.618	0	19 39 57.80	2.5555	S. 25 50 46.8	4.320
1	17 41 48.82	2.4253	26 6 3.9	3.471	1	19 42 31.12	2.5551	25 46 22.4	4.493
2	17 44 14.50	2.4307	26 9 27.7	3.322	2	19 45 4.41	2.5545	25 41 47.6	4.666
3	17 46 40.51	2.4361	26 12 42.6	3.173	3	19 47 37.66	2.5538	25 37 2.4	4.839
4	17 49 6.84	2.4414	26 15 48.5	3.022	4	19 50 10.87	2.5530	25 32 6.9	5.011
5	17 51 33.48	2.4465	26 18 45.2	2.869	5	19 52 44.02	2.5520	25 27 1.1	5.182
6	17 54 0.42	2.4515	26 21 32.8	2.716	6	19 55 17.11	2.5509	25 21 45.1	5.353
7	17 56 27.66	2.4565	26 24 11.2	2.562	7	19 57 50.13	2.5497	25 16 18.8	5.523
8	17 58 55.20	2.4615	26 26 40.3	2.408	8	20 0 23.07	2.5485	25 10 42.3	5.693
9	18 1 23.04	2.4663	26 29 0.2	2.253	9	20 2 55.93	2.5469	25 4 55.6	5.863
10	18 3 51.16	2.4709	26 31 10.7	2.096	10	20 5 28.70	2.5453	24 58 58.7	6.032
11	18 6 19.55	2.4753	26 33 11.7	1.937	11	20 8 1.37	2.5436	24 52 51.7	6.201
12	18 8 48.20	2.4797	26 35 3.2	1.778	12	20 10 33.93	2.5417	24 46 34.6	6.369
13	18 11 17.12	2.4841	26 36 45.1	1.619	13	20 13 6.37	2.5397	24 40 7.4	6.536
14	18 13 46.30	2.4885	26 38 17.5	1.459	14	20 15 38.70	2.5377	24 33 30.3	6.702
15	18 16 15.74	2.4927	26 39 40.2	1.297	15	20 18 10.90	2.5355	24 26 43.2	6.868
16	18 18 45.42	2.4967	26 40 53.2	1.135	16	20 20 42.96	2.5332	24 19 46.2	7.033
17	18 21 15.34	2.5005	26 41 56.4	0.972	17	20 23 14.89	2.5309	24 12 39.3	7.198
18	18 23 45.48	2.5042	26 42 49.8	0.808	18	20 25 46.67	2.5284	24 5 22.5	7.362
19	18 26 15.84	2.5079	26 43 33.4	0.643	19	20 28 18.29	2.5258	23 57 55.9	7.524
20	18 28 46.42	2.5115	26 44 7.0	0.477	20	20 30 49.76	2.5231	23 50 19.6	7.685
21	18 31 17.22	2.5149	26 44 30.7	0.312	21	20 33 21.06	2.5202	23 42 33.7	7.845
22	18 33 48.21	2.5181	26 44 44.5	- 0.146	22	20 35 52.18	2.5173	23 34 38.2	8.005
23	18 36 19.39	2.5212	26 44 48.2	+ 0.092	23	20 38 23.13	2.5143	23 26 33.1	8.164
24	18 38 50.75	2.5242	S. 26 44 41.8	0.191	24	20 40 53.90	2.5112	S. 23 18 18.5	8.323

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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FRIDAY 29.

	^h ^m ^s	^s	^h ^m ^s	^s
0	20 40 53.90	2.5112	S. 23° 18' 18.5	8.323
1	20 43 24.48	2.5080	23 9 54.4	8.480
2	20 45 54.86	2.5047	23 1 20.9	8.635
3	20 48 25.04	2.5013	22 52 38.2	8.789
4	20 50 55.02	2.4979	22 43 46.2	8.943
5	20 53 24.79	2.4944	22 34 45.0	9.096
6	20 55 54.35	2.4908	22 25 34.7	9.247
7	20 58 23.69	2.4872	22 16 15.3	9.397
8	21 0 52.81	2.4834	22 6 47.0	9.546
9	21 3 21.70	2.4796	21 57 9.8	9.694
10	21 5 50.36	2.4757	21 47 23.7	9.841
11	21 8 18.78	2.4718	21 37 28.9	9.985
12	21 10 46.97	2.4678	21 27 25.5	10.129
13	21 13 14.92	2.4637	21 17 13.5	10.273
14	21 15 42.62	2.4596	21 6 52.9	10.413
15	21 18 10.07	2.4554	20 56 23.9	10.552
16	21 20 37.27	2.4513	20 45 46.6	10.691
17	21 23 4.22	2.4471	20 35 1.0	10.826
18	21 25 30.92	2.4428	20 24 7.2	10.963
19	21 27 57.36	2.4384	20 13 5.4	11.097
20	21 30 23.53	2.4340	20 1 55.6	11.230
21	21 32 49.44	2.4297	19 50 37.8	11.362
22	21 35 15.09	2.4253	19 39 12.2	11.491
23	21 37 40.47	2.4208	S. 19° 27' 38.9	11.618

SUNDAY 31.

	^h ^m ^s	^s	^h ^m ^s	^s
0	22 36 46.25	2.3075	S. 14° 1' 38.6	14.286
1	22 39 4.57	2.3032	13 47 18.9	14.370
2	22 41 22.64	2.2990	13 32 54.2	14.452
3	22 43 40.45	2.2948	13 18 24.6	14.533
4	22 45 58.01	2.2906	13 3 50.2	14.612
5	22 48 15.32	2.2864	12 49 11.1	14.690
6	22 50 32.37	2.2822	12 34 27.4	14.766
7	22 52 49.18	2.2782	12 19 39.2	14.839
8	22 55 5.75	2.2741	12 4 46.7	14.911
9	22 57 22.07	2.2701	11 49 49.9	14.982
10	22 59 38.16	2.2662	11 34 48.9	15.050
11	23 1 54.01	2.2623	11 19 43.9	15.116
12	23 4 9.63	2.2584	11 4 35.0	15.181
13	23 6 25.02	2.2546	10 49 22.2	15.244
14	23 8 40.18	2.2508	10 34 5.7	15.306
15	23 10 55.12	2.2472	10 18 45.6	15.364
16	23 13 9.84	2.2436	10 3 22.0	15.422
17	23 15 24.35	2.2400	9 47 54.9	15.479
18	23 17 38.64	2.2364	9 32 24.5	15.533
19	23 19 52.72	2.2330	9 16 50.9	15.586
20	23 22 6.60	2.2296	9 1 14.2	15.636
21	23 24 20.27	2.2262	8 45 34.6	15.684
22	23 26 33.74	2.2229	8 29 52.1	15.732
23	23 28 47.02	2.2196	S. 8° 14' 6.8	15.777

SATURDAY 30.

	^h ^m ^s	^s	^h ^m ^s	^s
0	21 40 5.58	2.4163	S. 19° 15' 58.0	11.745
1	21 42 30.42	2.4118	19 4 9.5	11.870
2	21 44 54.99	2.4073	18 52 13.6	11.993
3	21 47 19.29	2.4027	18 40 10.3	12.115
4	21 49 43.31	2.3981	18 27 59.8	12.235
5	21 52 7.06	2.3936	18 15 42.1	12.353
6	21 54 30.54	2.3890	18 3 17.4	12.470
7	21 56 53.74	2.3843	17 50 45.7	12.586
8	21 59 16.66	2.3797	17 38 7.1	12.699
9	22 1 39.31	2.3752	17 25 21.8	12.811
10	22 4 1.68	2.3706	17 12 29.8	12.922
11	22 6 23.78	2.3660	16 59 31.2	13.031
12	22 8 45.60	2.3614	16 46 26.1	13.137
13	22 11 7.15	2.3568	16 33 14.7	13.242
14	22 13 28.42	2.3522	16 19 57.0	13.346
15	22 15 49.42	2.3477	16 6 33.2	13.447
16	22 18 10.15	2.3432	15 53 3.3	13.548
17	22 20 30.60	2.3386	15 39 27.4	13.647
18	22 22 50.78	2.3341	15 25 45.7	13.743
19	22 25 10.69	2.3296	15 11 58.3	13.837
20	22 27 30.33	2.3252	14 58 5.2	13.931
21	22 29 49.71	2.3207	14 44 6.6	14.022
22	22 32 8.82	2.3163	14 30 2.6	14.112
23	22 34 27.67	2.3119	14 15 53.2	14.200
24	22 36 46.25	2.3075	S. 14° 1' 38.6	14.286

MONDAY, FEBRUARY 1.

0	23 31 0.12	2.2167	S. 7° 58' 18.8	15.221
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PHASES OF THE MOON.

	d	h	m
☾ First Quarter . . Jan.	6	13	12.1
○ Full Moon	13	15	26.7
☾ Last Quarter	21	15	42.6
● New Moon	29	4	38.5

	d	h
☾ Perigee Jan.	5	5.1
☾ Apogee	20	3.2
☾ Perigee	31	21.2

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	V ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
1	SUN W.	17 48 31	2808	19 22 49	2788	20 57 33	2771	22 32 39	2756
	α Pegasi E.	58 22 52	2864	56 51 54	2979	55 21 15	2997	53 50 59	3019
	α Arietis E.	98 58 7	2484	97 16 31	2476	95 34 44	2467	93 52 45	2460
2	SUN W.	30 32 35	2699	32 9 16	2691	33 46 8	2684	35 23 10	2677
	α Pegasi E.	46 27 39	3183	45 1 9	3231	43 35 36	3266	42 11 8	3249
	α Arietis E.	85 20 24	2430	83 37 32	2425	81 54 33	2421	80 11 28	2417
3	SUN W.	43 30 24	2650	45 8 11	2646	46 46 4	2643	48 24 1	2639
	α Arietis E.	71 35 1	2407	69 51 36	2406	68 8 10	2406	66 24 44	2407
	Aldebaran E.	101 46 51	2336	100 1 44	2333	98 16 33	2331	96 31 18	2328
4	SUN W.	56 34 45	2628	58 13 2	2626	59 51 21	2626	61 29 41	2624
	α Arietis E.	57 48 2	2419	56 4 54	2423	54 21 52	2429	52 38 58	2434
	Aldebaran E.	87 44 14	2390	85 58 43	2318	84 13 10	2318	82 27 37	2318
5	SUN W.	69 41 35	2624	71 19 58	2624	72 58 20	2624	74 36 42	2626
	α Arietis E.	44 7 8	2482	42 25 30	2497	40 44 12	2513	39 3 17	2532
	Aldebaran E.	73 39 54	2390	71 54 24	2392	70 8 56	2393	68 23 30	2394
6	SUN W.	82 48 9	2632	84 26 21	2634	86 4 30	2635	87 42 37	2637
	Fomalhaut W.	39 11 18	2740	40 47 5	2711	42 23 30	2686	44 0 29	2663
	JUPITER W.	24 9 46	2402	25 53 18	2398	27 36 56	2395	29 20 38	2392
	Aldebaran E.	59 37 1	2336	57 51 54	2339	56 6 52	2343	54 21 55	2346
	Pollux E.	103 34 36	2300	101 48 36	2302	100 2 39	2303	98 16 44	2305
7	SUN W.	95 52 30	2649	97 30 19	2652	99 8 4	2655	100 45 45	2657
	Fomalhaut W.	52 11 47	2588	53 50 58	2578	55 30 23	2570	57 9 59	2562
	JUPITER W.	37 59 40	2390	39 43 29	2391	41 27 16	2392	43 11 2	2394
	α Pegasi W.	37 21 32	3552	38 40 59	3460	40 2 8	3380	41 24 47	3311
	Aldebaran E.	45 38 41	2371	43 54 25	2377	42 10 17	2384	40 26 19	2391
	Pollux E.	89 27 51	2315	87 42 14	2317	85 56 40	2320	84 11 10	2323
8	SUN W.	108 53 7	2675	110 30 21	2678	112 7 31	2682	113 44 35	2686
	Fomalhaut W.	65 30 4	2540	67 10 21	2538	68 50 41	2537	70 31 3	2537
	JUPITER W.	51 49 11	2405	53 32 39	2407	55 16 4	2410	56 59 25	2413
	α Pegasi W.	48 35 28	3067	50 4 18	3033	51 33 50	3003	53 3 59	2977
	Pollux E.	75 24 40	2337	73 39 35	2341	71 54 35	2344	70 9 39	2348
	Regulus E.	111 42 49	2350	109 58 2	2353	108 13 19	2355	106 28 40	2359
9	Fomalhaut W.	78 52 51	2540	80 33 8	2543	82 13 21	2546	83 53 30	2549
	JUPITER W.	65 34 58	2431	67 17 49	2435	69 0 34	2439	70 43 13	2443
	α Pegasi W.	60 41 52	2883	62 14 32	2873	63 47 27	2861	65 20 36	2852
	Pollux E.	61 26 23	2367	59 42 1	2372	57 57 46	2372	56 13 37	2381
	Regulus E.	97 46 40	2377	96 2 32	2381	94 18 30	2385	92 34 34	2389
10	Fomalhaut W.	92 12 53	2574	93 52 24	2580	95 31 47	2587	97 11 0	2593
	JUPITER W.	79 14 50	2468	80 56 48	2474	82 38 38	2480	84 20 20	2485
	α Pegasi W.	73 8 40	2827	74 42 33	2825	76 16 29	2825	77 50 25	2825
	α Arietis W.	29 30 55	2775	31 5 56	2744	32 41 38	2719	34 17 53	2698
	Pollux E.	47 34 39	2408	45 51 15	2413	44 7 59	2419	42 24 52	2426
	Regulus E.	83 56 35	2415	82 13 22	2420	80 30 16	2426	78 47 18	2432

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN W.	24 8 5	9741	25 43 50	9799	27 19 51	9719	28 56 6	9708
	α Pegasi E.	52 21 10	3043	50 51 51	3071	49 23 6	3103	47 55 0	3140
	α Arietis E.	92 10 35	9453	90 28 16	9446	88 45 47	9440	87 3 9	9435
2	SUN W.	37 0 21	9670	38 37 41	9665	40 15 8	9659	41 52 43	9655
	α Pegasi E.	40 47 53	3421	39 26 0	3503	38 5 39	3598	36 47 2	3705
	α Arietis E.	78 28 18	9415	76 45 4	9419	75 1 46	9410	73 18 25	9408
3	SUN W.	50 2 3	9636	51 40 9	9634	53 18 18	9639	54 56 30	9699
	α Arietis E.	64 41 19	9408	62 57 55	9410	61 14 34	9419	59 31 16	9415
	Aldebaran E.	94 45 59	9395	93 0 36	9394	91 15 11	9392	89 29 43	9391
4	SUN W.	63 8 3	9694	64 46 25	9694	66 24 48	9694	68 3 11	9693
	α Arietis E.	50 56 12	9442	49 13 37	9450	47 31 13	9460	45 49 3	9470
	Aldebaran E.	80 42 4	9318	78 56 31	9318	77 10 58	9319	75 25 26	9319
5	SUN W.	76 15 2	9696	77 53 21	9697	79 31 39	9699	81 9 55	9690
	α Arietis E.	37 22 48	2553	35 42 49	2578	34 3 24	2606	32 24 37	2638
	Aldebaran E.	66 38 6	9396	64 52 45	9398	63 7 27	9331	61 22 12	9283
6	SUN W.	89 20 42	9639	90 58 44	9642	92 36 42	9643	94 14 38	9646
	Fomalhaut W.	45 37 59	2643	47 15 55	2627	48 54 13	2612	50 32 51	2599
	JUPITER W.	31 4 24	2391	32 48 12	2390	34 32 1	2389	36 15 51	2390
	Aldebaran E.	52 37 3	2350	50 52 17	2355	49 7 38	2360	47 23 6	2365
	Pollux E.	96 30 52	2307	94 45 2	2309	92 59 15	2311	91 13 31	2313
7	SUN W.	102 23 22	9660	104 0 55	9663	105 38 24	9667	107 15 48	9671
	Fomalhaut W.	58 49 46	2556	60 29 41	2551	62 9 43	2547	63 49 51	2543
	JUPITER W.	44 54 45	2396	46 38 26	2398	48 22 4	2400	50 5 39	2402
	α Pegasi W.	42 48 46	2949	44 13 57	3195	45 40 12	3148	47 7 24	3105
	Aldebaran E.	38 42 32	2400	36 58 57	2410	35 15 36	2490	33 32 30	2433
	Pollux E.	82 25 44	2396	80 40 22	2398	78 55 4	2331	77 9 50	2334
8	SUN W.	115 21 34	2690	116 58 27	2695	118 35 13	2700	120 11 53	2704
	Fomalhaut W.	72 11 25	2536	73 51 48	2537	75 32 10	2538	77 12 31	2538
	JUPITER W.	58 42 41	2416	60 25 53	2419	62 9 0	2423	63 52 2	2427
	α Pegasi W.	54 34 41	2954	56 5 52	2932	57 37 30	2914	59 9 31	2898
	Pollux E.	68 24 49	2351	66 40 4	2355	64 55 25	2359	63 10 51	2363
	Regulus E.	104 44 6	2362	102 59 37	2366	101 15 13	2369	99 30 54	2373
9	Fomalhaut W.	85 33 35	2553	87 13 34	2558	88 53 27	2569	90 33 14	2568
	JUPITER W.	72 25 46	2448	74 8 12	2453	75 50 32	2458	77 32 45	2463
	α Pegasi W.	66 53 57	2944	68 27 28	2938	70 1 6	2934	71 34 50	2939
	Pollux E.	54 29 35	2386	52 45 40	2391	51 1 52	2396	49 18 12	2401
	Regulus E.	90 50 44	2394	89 7 1	2399	87 23 25	2404	85 39 56	2410
10	Fomalhaut W.	98 50 4	2601	100 28 57	2610	102 7 39	2618	103 46 9	2627
	JUPITER W.	86 1 54	2492	87 43 19	2498	89 24 35	2504	91 5 42	2511
	α Pegasi W.	79 24 20	2997	80 58 13	2992	82 32 3	2992	84 5 49	2996
	α Arietis W.	35 54 36	2692	37 31 40	2669	39 9 2	2658	40 46 38	2651
	Pollux E.	40 41 54	2433	38 59 6	2440	37 16 28	2447	35 34 0	2454
	Regulus E.	77 4 29	2438	75 21 49	2445	73 39 18	2451	71 56 56	2458

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
11	JUPITER W.	92° 46' 40"	2518	94° 27' 28"	2525	96° 8' 6"	2533	97° 48' 33"	2540
	α Pegasi W.	85 39 30	2542	87 13 4	2547	88 46 31	2554	90 19 49	2561
	α Arietis W.	42 24 24	2544	44 2 19	2539	45 40 21	2536	47 18 27	2534
	Pollux E.	33 51 42	2462	32 9 36	2470	30 27 41	2479	28 45 58	2489
	Regulus E.	70 14 44	2465	68 32 42	2473	66 50 51	2480	65 9 10	2489
	SATURN E.	101 58 6	2450	100 15 43	2458	98 33 30	2465	96 51 27	2472
12	α Arietis W.	55 29 5	2540	57 7 5	2544	58 45 0	2549	60 22 49	2554
	Regulus E.	56 43 40	2531	55 3 10	2541	53 22 54	2551	51 42 52	2561
	SATURN E.	88 23 51	2512	86 42 54	2520	85 2 9	2529	83 21 36	2538
	Spica E.	110 46 35	2528	109 6 1	2536	107 25 38	2545	105 45 27	2553
13	α Arietis W.	68 29 57	2587	70 6 54	2595	71 43 41	2703	73 20 17	2712
	Aldebaran W.	37 50 44	2560	39 28 17	2566	41 5 42	2572	42 42 59	2578
	Regulus E.	43 26 15	2516	41 47 42	2528	40 9 25	2540	38 31 25	2554
	SATURN E.	75 2 0	2585	73 22 45	2595	71 43 43	2608	70 4 56	2615
	Spica E.	97 27 39	2601	95 48 45	2610	94 10 4	2621	92 31 37	2631
14	α Arietis W.	81 20 14	2760	82 55 35	2770	84 30 42	2781	86 5 35	2792
	Aldebaran W.	50 47 4	2718	52 23 20	2727	53 59 24	2736	55 35 16	2746
	SATURN E.	61 54 31	2669	60 17 10	2681	58 40 4	2692	57 3 13	2703
	Spica E.	84 22 56	2685	82 45 56	2695	81 9 10	2707	79 32 40	2719
15	α Arietis W.	93 56 23	2848	95 29 48	2861	97 2 57	2873	98 35 51	2885
	Aldebaran W.	63 31 20	2797	65 5 52	2807	66 40 11	2818	68 14 16	2828
	SATURN E.	49 2 45	2760	47 27 25	2772	45 52 20	2783	44 17 30	2795
	Spica E.	71 33 57	2777	69 58 59	2788	68 24 16	2800	66 49 48	2812
	MARS E.	102 59 35	2990	101 28 57	2992	99 58 34	3004	98 28 26	3017
16	Aldebaran W.	76 1 12	2882	77 33 54	2893	79 6 22	2903	80 38 37	2913
	Pollux W.	31 49 6	2863	33 22 12	2874	34 55 4	2884	36 27 43	2894
	SATURN E.	36 27 6	2852	34 53 46	2863	33 20 40	2875	31 47 49	2887
	Spica E.	59 1 21	2871	57 28 25	2883	55 55 44	2894	54 23 18	2905
	MARS E.	91 1 30	3075	89 32 50	3087	88 4 25	3098	86 36 13	3110
	Antares E.	104 52 47	2958	103 19 34	2969	101 46 36	2980	100 13 52	2991
17	Aldebaran W.	88 16 36	2964	89 47 34	2973	91 18 20	2983	92 48 54	2992
	Pollux W.	44 7 55	2942	45 39 21	2950	47 10 36	2960	48 41 39	2969
	Spica E.	46 44 44	2969	45 13 44	2973	43 42 58	2985	42 12 26	2995
	MARS E.	79 18 35	3163	77 51 41	3173	76 25 0	3183	74 58 31	3193
	Antares E.	92 33 29	2942	91 2 3	2950	89 30 48	2960	87 59 45	2969
18	Pollux W.	56 14 15	3009	57 44 17	3016	59 14 10	3022	60 43 55	3030
	Regulus W.	20 18 11	3113	21 46 5	3108	23 14 5	3104	24 42 10	3101
	Spica E.	34 43 8	3051	33 13 58	3061	31 45 1	3073	30 16 18	3085
	MARS E.	67 48 49	3236	66 23 23	3244	64 58 6	3252	63 32 58	3259
	Antares E.	80 27 16	3010	78 57 16	3018	77 27 26	3025	75 57 44	3032
	SUN E.	129 31 39	3410	128 9 34	3417	126 47 37	3424	125 25 48	3431
19	Pollux W.	68 10 47	3056	69 39 51	3060	71 8 49	3064	72 37 43	3068
	Regulus W.	32 3 1	3100	33 31 11	3101	34 59 20	3101	36 27 28	3101
	MARS E.	56 29 11	3298	55 4 45	3293	53 40 25	3296	52 16 9	3300

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
11	JUPITER W.	99° 28' 50"	2548	101° 8' 56"	2556	102° 48' 51"	2565	104° 28' 34"	2573
	α Pegasi W.	91 52 58	2889	93 25 56	2879	94 58 42	2889	96 31 15	2899
	α Arietis W.	48 56 36	2634	50 34 45	2634	52 12 54	2635	53 51 1	2638
	Pollux E.	27 4 29	2498	25 23 13	2509	23 42 12	2520	22 1 27	2532
	Regulus E.	63 27 41	2497	61 46 23	2504	60 5 16	2514	58 24 22	2522
	SATURN E.	95 9 34	2480	93 27 52	2487	91 46 20	2495	90 5 0	2503
12	α Arietis W.	62 0 31	2659	63 38 6	2666	65 15 32	2672	66 52 49	2679
	Regulus E.	50 3 3	2572	48 23 29	2582	46 44 9	2593	45 5 4	2604
	SATURN E.	81 41 15	2547	80 1 7	2556	78 21 11	2566	76 41 29	2575
	Spica E.	104 5 28	2563	102 25 42	2572	100 46 8	2581	99 6 47	2591
13	α Arietis W.	74 56 41	2721	76 32 53	2730	78 8 53	2740	79 44 40	2750
	Aldebaran W.	44 20 8	2686	45 57 7	2692	47 33 57	2701	49 10 36	2709
	Regulus E.	36 53 43	2667	35 16 19	2681	33 39 14	2695	32 2 28	2711
	SATURN E.	68 26 22	2626	66 48 2	2637	65 9 57	2648	63 32 7	2658
	Spica E.	90 53 24	2641	89 15 25	2652	87 37 41	2663	86 0 11	2674
14	α Arietis W.	87 40 14	2803	89 14 38	2814	90 48 48	2825	92 22 43	2837
	Aldebaran W.	57 10 55	2756	58 46 21	2766	60 21 34	2775	61 56 34	2786
	SATURN E.	55 26 37	2714	53 50 16	2726	52 14 11	2737	50 38 20	2749
	Spica E.	77 56 25	2730	76 20 25	2741	74 44 40	2753	73 9 11	2765
15	α Arietis W.	100 8 29	2897	101 40 52	2909	103 12 59	2922	104 44 50	2935
	Aldebaran W.	69 48 7	2839	71 21 44	2850	72 55 7	2861	74 28 16	2871
	SATURN E.	42 42 55	2806	41 8 35	2818	39 34 31	2829	38 0 41	2841
	Spica E.	65 15 36	2824	63 41 39	2836	62 7 58	2848	60 34 32	2859
	MARS E.	96 58 34	3028	95 28 56	3040	93 59 33	3052	92 30 24	3064
16	Aldebaran W.	82 10 39	2924	83 42 27	2934	85 14 3	2944	86 45 26	2954
	Pollux W.	38 0 10	2903	39 32 25	2913	41 4 27	2923	42 36 17	2932
	SATURN E.	30 15 13	2898	28 42 51	2909	27 10 43	2920	25 38 49	2931
	Spica E.	52 51 6	2917	51 19 9	2928	49 47 26	2940	48 15 58	2951
	MARS E.	85 8 15	3120	83 40 30	3132	82 12 59	3143	80 45 41	3153
	Antares E.	98 41 21	2901	97 9 3	2912	95 36 59	2922	94 5 8	2931
17	Aldebaran W.	94 19 17	3001	95 49 28	3009	97 19 29	3018	98 49 19	3026
	Pollux W.	50 12 31	2977	51 43 12	2985	53 13 43	2993	54 44 4	3001
	Spica E.	40 42 7	3006	39 12 2	3017	37 42 10	3028	36 12 32	3039
	MARS E.	73 32 13	3202	72 6 6	3211	70 40 10	3220	69 14 24	3229
	Antares E.	86 28 54	2978	84 58 14	2986	83 27 44	2995	81 57 25	3003
18	Pollux W.	62 13 31	3035	63 43 0	3041	65 12 22	3046	66 41 38	3052
	Regulus W.	26 10 18	3100	27 38 28	3099	29 6 39	3099	30 34 50	3099
	Spica E.	28 47 50	3097	27 19 37	3110	25 51 39	3124	24 23 58	3138
	MARS E.	62 7 58	3265	60 43 6	3271	59 18 21	3277	57 53 43	3282
	Antares E.	74 28 11	3039	72 58 46	3044	71 29 28	3050	70 0 17	3056
	SUN E.	124 4 7	3438	122 42 33	3443	121 21 5	3449	119 59 44	3454
19	Pollux W.	74 6 32	3070	75 35 18	3073	77 4 1	3074	78 32 42	3077
	Regulus W.	37 55 36	3102	39 23 43	3103	40 51 49	3103	42 19 55	3103
	MARS E.	50 51 58	3303	49 27 50	3306	48 3 46	3306	46 39 44	3310

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
19	Antares E. SUN E.	68 31 13 118 38 28	3060 3459	67 2 15 117 17 18	3065 3463	65 33 22 115 56 13	3069 3468	64 4 34 114 35 13	3073 3471
20	Pollux W. Regulus W. Mars E. Antares E. SUN E.	80 1 20 43 48 1 45 15 44 56 41 29 107 50 57	3078 3102 3311 3084 3480	81 29 57 45 16 8 43 51 45 55 13 0 106 30 11	3078 3101 3313 3085 3481	82 58 33 46 44 16 42 27 48 53 44 32 105 9 26	3078 3101 3313 3086 3481	84 27 9 48 12 25 41 3 51 52 16 5 103 48 41	3078 3099 3313 3086 3481
21	Pollux W. Regulus W. SATURN W. Mars E. Antares E. SUN E.	91 50 25 55 33 45 23 50 2 34 3 53 44 53 42 97 4 39	3069 3086 3069 3304 3080 3471	93 19 12 57 2 12 25 18 49 32 39 46 43 25 8 95 43 43	3066 3082 3085 3301 3078 3468	94 48 3 58 30 43 26 47 41 31 15 36 41 56 32 94 22 43	3063 3078 3060 3297 3075 3464	96 16 58 59 59 20 28 16 39 29 51 21 40 27 52 93 1 39	3068 3073 3056 3294 3073 3459
22	Pollux W. Regulus W. SATURN W. SUN E.	103 43 5 67 24 2 35 43 15 86 14 47	3030 3043 3093 3429	105 12 40 68 53 22 37 12 59 84 53 3	3093 3035 3016 3421	106 42 24 70 22 51 38 42 52 83 31 10	3015 3097 3008 3413	108 12 18 71 52 30 40 12 55 82 9 8	3006 3018 2299 3404
23	Regulus W. SATURN W. Spica W. SUN E.	79 23 32 47 45 59 25 31 5 75 16 18	2970 2951 3031 3353	80 54 22 49 17 13 27 0 39 73 53 8	2960 2940 3013 3342	82 25 25 50 48 41 28 30 36 72 29 45	2949 2928 2996 3331	83 56 42 52 20 24 30 0 54 71 6 9	2937 2916 2978 3318
24	Regulus W. SATURN W. Spica W. SUN E.	91 36 59 60 2 56 37 37 40 64 4 23	2873 2853 2897 3251	93 9 52 61 36 15 39 10 3 62 39 14	2859 2839 2881 3236	94 43 3 63 9 52 40 42 46 61 13 48	2845 2825 2865 3221	96 16 32 64 43 47 42 15 50 59 48 4	2831 2811 2848 3207
25	SATURN W. Spica W. SUN E.	72 38 14 50 6 29 52 34 54	2734 2706 3129	74 14 9 51 41 42 51 7 20	2719 2749 3113	75 50 24 53 17 17 49 39 26	2703 2732 3097	77 27 0 54 5 14 48 11 13	2687 2716 3081
26	SATURN W. Spica W. Mars W. SUN E.	85 35 29 62 58 37 24 32 34 40 45 12	2605 2631 2829 3002	87 14 17 64 36 50 26 6 24 39 15 2	2588 2614 2811 2986	88 53 28 66 15 26 27 40 37 37 44 32	2572 2597 2794 2972	90 33 2 67 54 25 29 15 13 36 13 44	2556 2589 2776 2957
27	Spica W. Mars W. Antares W. SUN E.	76 15 8 37 13 58 30 22 7 28 35 24	2497 2690 2508 2896	77 56 25 38 50 51 32 3 9 27 3 0	2482 2673 2491 2887	79 38 4 40 28 7 33 44 35 25 30 24	2466 2657 2473 2880	81 20 5 42 5 45 35 26 26 23 57 39	2450 2640 2456 2876
30	SUN W. α Arietis E. Aldebaran E.	11 54 54 76 23 20 106 41 38	2862 2286 2227	13 28 2 74 37 0 104 53 51	2782 2281 2220	15 2 54 72 50 33 103 5 54	2721 2277 2214	16 39 6 71 4 0 101 17 47	2675 2274 2208
31	SUN W. α Arietis E. Aldebaran E.	24 51 43 62 10 27 92 15 23	2558 2270 2189	26 31 36 60 23 44 90 26 39	2546 2272 2186	28 11 45 58 37 3 88 37 51	2536 2275 2185	29 52 8 56 50 27 86 49 1	2528 2279 2184

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
19	Antares	E.	62° 35' 50"	3075	61° 7' 10"	3078	59° 38' 34"	3080	58° 10' 0"	3082
	SUN	E.	113 14 16	3474	111 53 23	3476	110 32 32	3479	109 11 44	3480
20	Pollux	W.	85 55 45	3078	87 24 22	3076	88 53 1	3074	90 21 42	3073
	Regulus	W.	49 40 36	3097	51 8 49	3096	52 37 4	3092	54 5 23	3090
	MARS	E.	39 39 54	3312	38 15 56	3311	36 51 57	3309	35 27 56	3307
	Antares	E.	50 47 38	3086	49 19 11	3085	47 50 43	3083	46 22 13	3082
	SUN	E.	102 27 56	3480	101 7 10	3479	99 46 22	3477	98 25 32	3474
21	Pollux	W.	97 45 59	3054	99 15 5	3048	100 44 18	3043	102 13 38	3037
	Regulus	W.	61 28 2	3068	62 56 51	3062	64 25 47	3056	65 54 51	3050
	SATURN	W.	29 45 43	3050	31 14 54	3043	32 44 13	3037	34 13 40	3030
	MARS	E.	26 27 2	3288	27 2 37	3284	25 38 7	3278	24 13 30	3272
	Antares	E.	38 59 8	3069	37 30 20	3065	36 1 27	3060	34 32 29	3056
	SUN	E.	91 40 29	3454	90 19 14	3448	88 57 52	3442	87 36 23	3436
22	Pollux	W.	109 42 21	2999	111 12 35	2990	112 43 0	2981	114 13 37	2971
	Regulus	W.	73 22 20	3010	74 52 20	3001	76 22 32	2991	77 52 56	2981
	SATURN	W.	41 43 9	2990	43 13 34	2981	44 44 10	2972	46 14 58	2962
	SUN	E.	80 46 56	3394	79 24 33	3386	78 2 0	3375	76 39 15	3365
23	Regulus	W.	85 28 14	2925	87 0 1	2919	88 32 4	2900	90 4 23	2887
	SATURN	W.	53 52 22	2994	55 24 36	2991	56 57 6	2978	58 29 53	2966
	Spica	W.	31 31 34	2962	33 2 35	2946	34 33 56	2929	36 5 38	2913
	SUN	E.	69 42 18	3306	68 18 13	3292	66 53 52	3279	65 29 16	3265
24	Regulus	W.	97 50 19	2817	99 24 25	2802	100 58 50	2787	102 33 35	2772
	SATURN	W.	66 18 0	2795	67 52 34	2781	69 27 27	2766	71 2 40	2750
	Spica	W.	43 49 15	2832	45 23 1	2815	46 57 9	2799	48 31 38	2782
	SUN	E.	58 22 3	3192	56 55 44	3176	55 29 6	3160	54 2 9	3145
25	SATURN	W.	79 3 58	2671	80 41 17	2654	82 18 59	2638	83 57 3	2621
	Spica	W.	56 29 33	2698	58 6 15	2682	59 43 19	2664	61 20 47	2648
	SUN	E.	46 42 40	3065	45 13 47	3049	43 44 35	3033	42 15 3	3018
26	SATURN	W.	92 12 58	2539	93 53 17	2522	95 33 59	2506	97 15 4	2490
	Spica	W.	69 33 48	2564	71 13 33	2546	72 53 42	2530	74 34 14	2514
	MARS	W.	30 50 12	2759	32 25 34	2741	34 1 19	2724	35 37 27	2707
	SUN	E.	34 42 37	2943	33 11 13	2930	31 39 32	2917	30 7 35	2906
27	Spica	W.	83 2 28	2435	84 45 13	2420	86 28 19	2405	88 11 46	2391
	MARS	W.	43 43 45	2624	45 22 7	2609	47 0 50	2593	48 39 54	2578
	Antares	W.	37 8 41	2439	38 51 20	2423	40 34 22	2407	42 17 47	2392
	SUN	E.	22 24 49	2674	20 51 57	2676	19 19 8	2655	17 46 30	2600
30	SUN	W.	18 16 20	2639	19 54 22	2612	21 33 1	2590	23 12 10	2572
	α Arietis	E.	69 17 22	2272	67 30 41	2270	65 43 57	2269	63 57 12	2269
	Aldebaran	E.	99 29 32	2203	97 41 9	2198	95 52 39	2194	94 4 3	2192
31	SUN	W.	31 32 42	2522	33 13 24	2517	34 54 13	2514	36 35 7	2512
	α Arietis	E.	55 3 57	2285	53 17 35	2291	51 31 22	2296	49 45 20	2307
	Aldebaran	E.	85 0 10	2184	83 11 18	2184	81 22 27	2185	79 33 37	2186

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Mon.	1	^h 20 ^m 58 ^s 28.51	10.200	S. 17° 9' 44.8"	+42.56	16' 16.08	68.31	^m 13 ^s 46.16	0.343
Tues.	2	21 2 32.88	10.165	16 52 34.2	43.31	16 15.94	68.19	13 53.96	0.308
Wed.	3	21 6 36.41	10.130	16 35 6.0	44.03	16 15.79	68.08	14 0.92	0.273
Thur.	4	21 10 39.10	10.094	16 17 20.6	+44.74	16 15.64	67.96	14 7.04	0.238
Frid.	5	21 14 40.96	10.059	15 59 18.3	45.43	16 15.49	67.85	14 12.32	0.203
Sat.	6	21 18 41.99	10.025	15 40 59.6	46.11	16 15.33	67.73	14 16.77	0.169
SUN.	7	21 22 42.18	9.991	15 22 25.0	+46.77	16 15.17	67.62	14 20.40	0.135
Mon.	8	21 26 41.55	9.957	15 3 34.9	47.41	16 15.00	67.50	14 23.21	0.101
Tues.	9	21 30 40.10	9.924	14 44 29.6	48.03	16 14.83	67.39	14 25.20	0.068
Wed.	10	21 34 37.85	9.891	14 25 9.6	+48.64	16 14.65	67.28	14 26.39	0.035
Thur.	11	21 38 34.81	9.858	14 5 35.3	49.23	16 14.47	67.17	14 26.80	0.002
Frid.	12	21 42 30.99	9.826	13 45 47.1	49.80	16 14.28	67.06	14 26.43	0.030
Sat.	13	21 46 26.41	9.794	13 25 45.5	+50.35	16 14.09	66.95	14 25.30	0.062
SUN.	14	21 50 21.08	9.763	13 5 30.8	50.89	16 13.89	66.84	14 23.42	0.093
Mon.	15	21 54 15.02	9.732	12 45 3.3	51.40	16 13.69	66.73	14 20.81	0.123
Tues.	16	21 58 8.24	9.702	12 24 23.5	+51.90	16 13.48	66.63	14 17.48	0.153
Wed.	17	22 2 0.75	9.673	12 3 31.8	52.39	16 13.27	66.53	14 13.44	0.182
Thur.	18	22 5 52.57	9.645	11 42 28.5	52.86	16 13.06	66.43	14 8.71	0.210
Frid.	19	22 9 43.71	9.617	11 21 14.1	+53.32	16 12.84	66.33	14 3.31	0.238
Sat.	20	22 13 34.18	9.590	10 59 49.0	53.76	16 12.62	66.23	13 57.26	0.265
SUN.	21	22 17 24.01	9.563	10 38 13.5	54.18	16 12.39	66.13	13 50.56	0.292
Mon.	22	22 21 13.22	9.537	10 16 28.0	+54.59	16 12.16	66.04	13 43.23	0.318
Tues.	23	22 25 1.81	9.512	9 54 33.1	54.98	16 11.93	65.95	13 35.29	0.343
Wed.	24	22 28 49.80	9.487	9 32 29.1	55.35	16 11.70	65.86	13 26.74	0.368
Thur.	25	22 32 37.19	9.463	9 10 16.3	+55.70	16 11.47	65.77	13 17.60	0.392
Frid.	26	22 36 24.00	9.439	8 47 55.3	56.04	16 11.23	65.69	13 7.88	0.416
Sat.	27	22 40 10.25	9.416	8 25 26.4	56.36	16 10.99	65.61	12 57.60	0.439
SUN.	28	22 43 55.95	9.393	8 2 50.0	56.66	16 10.75	65.53	12 46.78	0.462
Mon.	29	22 47 41.11	9.371	7 40 6.6	56.94	16 10.51	65.45	12 35.42	0.484
Tues.	30	22 51 25.75	9.350	S. 7 17 16.6	+57.20	16 10.27	65.38	12 23.53	0.505

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Mon.	1	^h 20 ^m 58 ^s 26.17	10.199	S. 17° 9' 54.6"	+42.55	^m 13 ^s 46.09	0.343	^h 20 ^m 44 ^s 40.09
Tues.	2	21 2 30.53	10.164	16 52 44.3	43.30	13 53.89	0.308	20 48 36.64
Wed.	3	21 6 34.05	10.129	16 35 16.4	44.02	14 0.85	0.273	20 52 33.20
Thur.	4	21 10 36.73	10.094	16 17 31.2	+44.73	14 6.98	0.238	20 56 29.75
Frid.	5	21 14 38.58	10.059	15 59 29.1	45.42	14 12.27	0.203	21 0 26.31
Sat.	6	21 18 39.60	10.025	15 41 10.6	46.10	14 16.73	0.169	21 4 22.86
SUN.	7	21 22 39.79	9.991	15 22 36.2	+46.76	14 20.37	0.135	21 8 19.42
Mon.	8	21 26 39.16	9.957	15 3 46.3	47.40	14 23.19	0.101	21 12 15.97
Tues.	9	21 30 37.72	9.924	14 44 41.2	48.02	14 25.19	0.068	21 16 12.53
Wed.	10	21 34 35.47	9.891	14 25 21.3	+48.63	14 26.38	0.035	21 20 9.09
Thur.	11	21 38 32.44	9.858	14 5 47.1	49.22	14 26.80	0.002	21 24 5.64
Frid.	12	21 42 28.63	9.826	13 45 59.1	49.79	14 26.44	0.030	21 28 2.19
Sat.	13	21 46 24.06	9.794	13 25 57.6	+50.34	14 25.31	0.062	21 31 58.75
SUN	14	21 50 18.74	9.763	13 5 43.0	50.88	14 23.43	0.093	21 35 55.30
Mon.	15	21 54 12.69	9.733	12 45 15.6	51.40	14 20.83	0.123	21 39 51.86
Tues.	16	21 58 5.92	9.703	12 24 35.9	+51.90	14 17.51	0.153	21 43 48.41
Wed.	17	22 1 58.45	9.674	12 3 44.2	52.39	14 13.48	0.182	21 47 44.97
Thur.	18	22 5 50.29	9.646	11 42 41.0	52.86	14 8.76	0.210	21 51 41.52
Frid.	19	22 9 41.45	9.618	11 21 26.6	+53.32	14 3.37	0.238	21 55 38.08
Sat.	20	22 13 31.95	9.591	11 0 1.5	53.76	13 57.32	0.265	21 59 34.63
SUN.	21	22 17 21.81	9.564	10 38 26.0	54.18	13 50.62	0.292	22 3 31.19
Mon.	22	22 21 11.04	9.538	10 16 40.6	+54.59	13 43.30	0.318	22 7 27.74
Tues.	23	22 24 59.66	9.513	9 54 45.6	54.98	13 35.36	0.343	22 11 24.30
Wed.	24	22 28 47.67	9.488	9 32 41.4	55.35	13 26.82	0.368	22 15 20.85
Thur.	25	22 32 35.09	9.464	9 10 28.6	+55.70	13 17.68	0.392	22 19 17.41
Frid.	26	22 36 21.93	9.440	8 48 7.5	56.04	13 7.97	0.416	22 23 13.96
Sat.	27	22 40 8.21	9.417	8 25 38.5	56.36	12 57.69	0.439	22 27 10.52
SUN.	28	22 43 53.94	9.394	8 3 2.0	56.66	12 46.87	0.462	22 31 7.07
Mon.	29	22 47 39.14	9.372	7 40 18.5	56.94	12 35.51	0.484	22 35 3.63
Tues.	30	22 51 23.82	9.351	S. 7 17 28.4	+57.21	12 23.63	0.505	22 39 0.18

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 Hour
+ 9.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	32	312° 8' 56.0	9' 4.0	152.24	— 0.59	9.9936868	+26.5	^h 3 ^m 14 ^s 47.92
2	33	313 9 49.1	9 56.9	152.18	0.51	9.9937510	27.1	3 10 52.01
3	34	314 10 40.8	10 48.4	152.13	0.41	9.9938167	27.7	3 6 56.10
4	35	315 11 31.1	11 38.6	152.07	— 0.29	9.9938840	+28.4	3 3 0.19
5	36	316 12 20.0	12 27.4	152.01	0.16	9.9939529	29.1	2 59 4.28
6	37	317 13 7.3	13 14.5	151.94	— 0.02	9.9940236	29.9	2 55 8.37
7	38	318 13 53.0	14 0.0	151.88	+ 0.11	9.9940963	+30.7	2 51 12.47
8	39	319 14 37.2	14 44.1	151.81	0.23	9.9941711	31.6	2 47 16.56
9	40	320 15 19.9	15 26.7	151.75	0.34	9.9942480	32.5	2 43 20.65
10	41	321 16 1.0	16 7.7	151.68	+ 0.43	9.9943270	+33.4	2 39 24.73
11	42	322 16 40.6	16 47.1	151.62	0.49	9.9944082	34.3	2 35 28.82
12	43	323 17 18.7	17 25.0	151.56	0.52	9.9944915	35.2	2 31 32.91
13	44	324 17 55.4	18 1.5	151.50	+ 0.52	9.9945771	+36.1	2 27 37.00
14	45	325 18 30.6	18 36.7	151.44	0.49	9.9946650	37.1	2 23 41.09
15	46	326 19 4.5	19 10.5	151.38	0.43	9.9947552	38.0	2 19 45.19
16	47	327 19 37.0	19 42.8	151.32	+ 0.34	9.9948475	+38.9	2 15 49.28
17	48	328 20 8.1	20 13.8	151.26	0.23	9.9949417	39.6	2 11 53.37
18	49	329 20 37.9	20 43.5	151.21	+ 0.11	9.9950377	40.4	2 7 57.46
19	50	330 21 6.4	21 11.9	151.16	— 0.01	9.9951354	+41.1	2 4 1.55
20	51	331 21 33.7	21 39.1	151.11	0.14	9.9952347	41.7	2 0 5.64
21	52	332 21 59.7	22 4.9	151.06	0.27	9.9953354	42.2	1 56 9.73
22	53	333 22 24.3	22 29.4	151.00	— 0.38	9.9954373	+42.7	1 52 13.82
23	54	334 22 47.5	22 52.5	150.94	0.48	9.9955403	43.1	1 48 17.91
24	55	335 23 9.1	23 14.0	150.87	0.55	9.9956443	43.5	1 44 22.00
25	56	336 23 29.2	23 33.9	150.81	— 0.59	9.9957491	+43.8	1 40 26.09
26	57	337 23 47.7	23 52.3	150.74	0.60	9.9958546	44.1	1 36 30.19
27	58	338 24 4.6	24 9.1	150.67	0.58	9.9959608	44.4	1 32 34.29
28	59	339 24 19.8	24 24.2	150.60	0.54	9.9960676	44.6	1 28 38.38
29	60	340 24 33.2	24 37.5	150.52	0.47	9.9961749	44.8	1 24 42.47
30	61	341 24 44.7	24 48.8	150.44	— 0.36	9.9962827	+45.0	1 20 46.55
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 14.0.								
								Diff. for 1 Hour. — 9.8296. (Table II.)

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	16' 23.9	16' 23.3	60' 4.4	-0.06	60' 2.2	-0.30	h m 2 52.2	m 2.12	d 2.8
2	16 22.0	16 19.9	59 57.2	0.53	59 49.7	0.71	3 42.3	2.07	3.8
3	16 17.3	16 14.2	59 40.1	0.88	59 28.8	1.00	4 31.6	2.07	4.8
4	16 10.8	16 7.1	59 16.1	-1.10	59 2.4	-1.18	5 21.6	2.11	5.8
5	16 3.1	15 59.0	58 47.8	1.24	58 32.7	1.27	6 13.1	2.19	6.8
6	15 54.8	15 50.6	58 17.4	1.29	58 1.9	1.30	7 6.9	2.29	7.8
7	15 46.4	15 42.1	57 46.4	-1.29	57 30.9	-1.28	8 2.8	2.35	8.8
8	15 38.0	15 33.9	57 15.6	1.27	57 0.5	1.25	8 59.9	2.37	9.8
9	15 29.8	15 25.8	56 45.6	1.24	56 30.9	1.21	9 56.6	2.32	10.8
10	15 21.9	15 18.0	56 16.5	-1.20	56 2.3	-1.18	10 51.3	2.21	11.8
11	15 14.2	15 10.6	55 48.4	1.15	55 34.9	1.11	11 42.7	2.07	12.8
12	15 7.0	15 3.6	55 21.9	1.07	55 9.4	1.02	12 30.5	1.92	13.8
13	15 0.4	14 57.4	54 57.5	-0.96	54 46.5	-0.88	13 14.9	1.80	14.8
14	14 54.7	14 52.2	54 36.5	0.80	54 27.5	0.70	13 56.8	1.71	15.8
15	14 50.1	14 48.4	54 19.9	0.58	54 13.7	0.45	14 36.9	1.66	16.8
16	14 47.2	14 46.5	54 9.2	-0.30	54 6.6	-0.15	15 16.4	1.65	17.8
17	14 46.3	14 46.7	54 5.8	+0.04	54 7.3	+0.22	15 56.2	1.69	18.8
18	14 47.7	14 49.4	54 11.0	0.41	54 17.1	0.61	16 37.5	1.77	19.8
19	14 51.7	14 54.7	54 25.6	+0.82	54 36.6	+1.03	17 21.1	1.89	20.8
20	14 58.4	15 2.7	54 50.2	1.24	55 6.2	1.44	18 8.1	2.04	21.8
21	15 7.8	15 13.4	55 24.7	1.64	55 45.5	1.82	18 59.0	2.20	22.8
22	15 19.7	15 26.3	56 8.3	+1.98	56 32.9	+2.12	19 53.6	2.34	23.8
23	15 33.5	15 40.9	56 59.1	2.23	57 26.3	2.30	20 51.2	2.43	24.8
24	15 48.5	15 56.1	57 54.2	2.33	58 22.1	2.31	21 50.2	2.44	25.8
25	16 3.6	16 10.7	58 49.5	+2.24	59 15.7	+2.11	22 48.5	2.38	26.8
26	16 17.3	16 23.2	59 40.0	1.92	60 1.8	1.69	23 45.0	2.31	27.8
27	16 28.3	16 32.4	60 20.5	1.41	60 35.5	1.09	δ		28.8
28	16 35.4	16 37.2	60 46.5	+0.74	60 53.1	+0.37	0 39.2	2.22	0.3
29	16 37.8	16 37.2	60 55.3	0.00	60 53.0	-0.37	1 31.5	2.16	1.3
30	16 35.4	16 32.6	60 46.6	-0.70	60 36.3	-1.00	2 22.9	2.14	2.3

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
MONDAY 1.					WEDNESDAY 3.				
0	^h 23 ^m 31 ^s 0.12	2.2167	S. 7° 58' 18.8"	15.891	0	^h 1 ^m 15 ^s 10.09	2.1534	N. 4° 59' 20.3"	15.980
1	23 33 13.03	2.2136	7 42 28.3	15.892	1	1 17 19.31	2.1540	5 15 16.8	15.984
2	23 35 25.75	2.2105	7 26 35.3	15.903	2	1 19 28.57	2.1547	5 31 11.1	15.987
3	23 37 38.20	2.2076	7 10 39.9	15.942	3	1 21 37.87	2.1554	5 47 3.2	15.948
4	23 39 50.66	2.2047	6 54 42.3	15.978	4	1 23 47.22	2.1562	6 2 52.9	15.808
5	23 42 2.86	2.2019	6 38 42.5	16.013	5	1 25 56.62	2.1572	6 18 40.2	15.767
6	23 44 14.89	2.1992	6 22 40.7	16.047	6	1 28 6.08	2.1582	6 34 24.9	15.723
7	23 46 26.76	2.1965	6 6 36.9	16.078	7	1 30 15.60	2.1592	6 50 7.0	15.679
8	23 48 38.47	2.1939	5 50 31.3	16.107	8	1 32 25.19	2.1603	7 5 46.4	15.633
9	23 50 50.03	2.1914	5 34 24.0	16.136	9	1 34 34.84	2.1614	7 21 23.0	15.586
10	23 53 1.44	2.1890	5 18 15.0	16.162	10	1 36 44.56	2.1628	7 36 56.7	15.537
11	23 55 12.71	2.1867	5 2 4.5	16.187	11	1 38 54.37	2.1642	7 52 27.5	15.488
12	23 57 23.84	2.1843	4 45 52.6	16.210	12	1 41 4.26	2.1656	8 7 55.3	15.437
13	23 59 34.83	2.1821	4 29 39.3	16.232	13	1 43 14.24	2.1671	8 23 19.9	15.383
14	0 1 45.69	2.1799	4 13 24.8	16.251	14	1 45 24.31	2.1686	8 38 41.3	15.328
15	0 3 56.42	2.1778	3 57 9.2	16.268	15	1 47 34.47	2.1702	8 53 59.3	15.272
16	0 6 7.03	2.1758	3 40 52.6	16.285	16	1 49 44.73	2.1719	9 9 13.9	15.215
17	0 8 17.52	2.1739	3 24 35.0	16.300	17	1 51 55.10	2.1737	9 24 25.1	15.157
18	0 10 27.90	2.1721	3 8 16.6	16.313	18	1 54 5.58	2.1756	9 39 32.8	15.097
19	0 12 38.17	2.1703	2 51 57.5	16.324	19	1 56 16.17	2.1775	9 54 36.8	15.036
20	0 14 48.34	2.1686	2 35 37.7	16.334	20	1 58 26.88	2.1794	10 9 37.1	14.973
21	0 16 58.40	2.1669	2 19 17.4	16.342	21	2 0 37.70	2.1814	10 24 33.6	14.909
22	0 19 8.37	2.1655	2 2 56.7	16.348	22	2 2 48.65	2.1836	10 39 26.2	14.843
23	0 21 18.26	2.1641	S. 1° 46' 35.6"	16.353	23	2 4 59.73	2.1858	N. 10° 54' 14.8"	14.776
TUESDAY 2.					THURSDAY 4.				
0	0 23 28.06	2.1627	S. 1° 30' 14.3"	16.357	0	2 7 10.94	2.1880	N. 11° 8' 59.3"	14.707
1	0 25 37.78	2.1613	1 13 52.8	16.358	1	2 9 22.20	2.1903	11 23 39.7	14.638
2	0 27 47.42	2.1601	0 57 31.3	16.357	2	2 11 33.78	2.1926	11 38 15.9	14.567
3	0 29 56.99	2.1589	0 41 9.9	16.356	3	2 13 45.40	2.1949	11 52 47.8	14.495
4	0 32 6.49	2.1579	0 24 48.6	16.352	4	2 15 57.17	2.1974	12 7 15.3	14.421
5	0 34 15.94	2.1570	S. 0° 8' 27.6"	16.347	5	2 18 9.09	2.2000	12 21 38.3	14.346
6	0 36 25.33	2.1560	N. 0° 7' 53.1"	16.341	6	2 20 21.17	2.2026	12 35 56.8	14.270
7	0 38 34.66	2.1552	0 24 13.3	16.332	7	2 22 33.40	2.2052	12 50 10.7	14.192
8	0 40 43.95	2.1545	0 40 33.0	16.323	8	2 24 45.79	2.2079	13 4 19.9	14.112
9	0 42 53.20	2.1538	0 56 52.1	16.312	9	2 26 58.35	2.2107	13 18 24.2	14.032
10	0 45 2.41	2.1532	1 13 10.5	16.300	10	2 29 11.07	2.2134	13 32 23.7	13.951
11	0 47 11.59	2.1527	1 29 28.1	16.285	11	2 31 23.96	2.2163	13 46 18.3	13.868
12	0 49 20.74	2.1522	1 45 44.7	16.269	12	2 33 37.63	2.2192	14 0 7.9	13.784
13	0 51 29.86	2.1519	2 2 0.3	16.252	13	2 35 50.27	2.2222	14 13 52.4	13.698
14	0 53 38.97	2.1517	2 18 14.9	16.233	14	2 38 3.69	2.2252	14 27 31.7	13.611
15	0 55 48.06	2.1515	2 34 28.3	16.212	15	2 40 17.20	2.2282	14 41 5.7	13.522
16	0 57 57.15	2.1514	2 50 40.4	16.190	16	2 42 31.07	2.2312	14 54 34.4	13.433
17	1 0 6.23	2.1513	3 6 51.1	16.167	17	2 44 45.04	2.2344	15 7 57.7	13.342
18	1 2 15.31	2.1514	3 23 0.4	16.142	18	2 46 59.20	2.2376	15 21 15.4	13.249
19	1 4 24.40	2.1516	3 39 8.1	16.115	19	2 49 13.55	2.2408	15 34 27.6	13.156
20	1 6 33.50	2.1518	3 55 14.2	16.087	20	2 51 28.00	2.2440	15 47 34.2	13.062
21	1 8 42.61	2.1520	4 11 18.5	16.057	21	2 53 42.83	2.2472	16 0 35.0	12.965
22	1 10 51.74	2.1524	4 27 21.0	16.026	22	2 55 57.76	2.2506	16 13 30.0	12.868
23	1 13 0.90	2.1529	4 43 21.6	15.994	23	2 58 12.90	2.2540	16 26 19.2	12.770
24	1 15 10.09	2.1534	N. 4° 59' 20.3"	15.960	24	3 0 28.24	2.2573	N. 16° 39' 2.4"	12.670

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 5.					SUNDAY 7.				
0	h m s	s	N. 16° 39' 2.4"	12.670	0	h m s	s	N. 24° 30' 17.0"	6.568
1	3 0 28.24	2.2573	16 51 39.6	12.569	1	4 52 53.75	2.4906	24 36 46.6	6.418
2	3 2 43.78	2.2607	17 4 10.7	12.467	2	4 55 19.06	2.4931	24 43 7.2	6.268
3	3 4 59.53	2.2642	17 16 35.6	12.363	3	5 0 10.13	2.4956	24 49 18.8	6.117
4	3 7 15.49	2.2677	17 28 54.3	12.259	4	5 2 35.88	2.4980	24 55 21.3	5.966
5	3 9 31.65	2.2712	17 41 6.7	12.155	5	5 5 1.76	2.4935	25 1 14.7	5.813
6	3 11 48.03	2.2747	17 53 12.6	12.045	6	5 7 27.78	2.4947	25 6 58.9	5.660
7	3 14 4.62	2.2782	18 5 12.1	11.937	7	5 9 53.93	2.4968	25 12 31.9	5.507
8	3 16 21.42	2.2818	18 17 5.1	11.827	8	5 12 20.20	2.4988	25 17 59.7	5.353
9	3 18 38.44	2.2854	18 28 51.4	11.716	9	5 14 46.58	2.4407	25 23 16.3	5.199
10	3 20 55.67	2.2890	18 40 31.0	11.604	10	5 17 13.08	2.4426	25 28 23.6	5.044
11	3 23 13.12	2.2927	18 52 3.9	11.492	11	5 19 39.63	2.4443	25 33 21.6	4.888
12	3 25 30.79	2.2963	19 3 30.0	11.378	12	5 22 6.39	2.4459	25 38 10.2	4.738
13	3 27 48.68	2.3000	19 14 49.2	11.262	13	5 24 33.19	2.4475	25 42 49.5	4.576
14	3 30 6.79	2.3036	19 26 1.4	11.145	14	5 27 0.09	2.4490	25 47 19.4	4.419
15	3 32 25.12	2.3072	19 37 6.6	11.027	15	5 29 27.07	2.4503	25 51 39.8	4.262
16	3 34 43.66	2.3108	19 48 4.7	10.908	16	5 31 54.13	2.4516	25 55 50.8	4.104
17	3 37 2.42	2.3145	19 58 55.6	10.788	17	5 34 21.26	2.4527	25 59 52.3	3.947
18	3 39 21.40	2.3183	20 9 39.3	10.667	18	5 36 48.45	2.4537	26 3 44.4	3.789
19	3 41 40.61	2.3220	20 20 15.7	10.545	19	5 39 15.70	2.4547	26 7 27.0	3.630
20	3 44 0.04	2.3256	20 30 44.7	10.422	20	5 41 43.01	2.4557	26 11 0.0	3.471
21	3 46 19.68	2.3292	20 41 6.3	10.297	21	5 44 10.38	2.4565	26 14 23.5	3.312
22	3 48 39.54	2.3328	20 51 20.4	10.172	22	5 46 37.79	2.4571	26 17 37.5	3.153
23	3 50 59.62	2.3365	N. 21° 1' 26.9"	10.045	23	5 49 5.23	2.4576	N. 26° 20' 41.9"	2.993
24	3 53 19.92	2.3402							
SATURDAY 6.					MONDAY 8.				
0	h m s	s	N. 21° 11' 25.8"	9.917	0	h m s	s	N. 26° 23' 36.7"	2.833
1	3 55 40.44	2.3438	21 21 17.0	9.789	1	5 51 32.70	2.4581	26 26 21.9	2.674
2	3 58 1.17	2.3474	21 31 0.5	9.659	2	5 54 0.20	2.4584	26 28 57.6	2.515
3	4 0 22.12	2.3510	21 40 36.1	9.528	3	5 56 27.71	2.4586	26 31 23.7	2.355
4	4 2 43.20	2.3546	21 50 3.8	9.396	4	5 58 55.23	2.4587	26 33 40.2	2.195
5	4 4 5.67	2.3581	21 59 23.6	9.263	5	6 1 22.76	2.4588	26 35 47.1	2.034
6	4 7 26.26	2.3616	22 8 35.4	9.129	6	6 3 50.29	2.4587	26 37 44.3	1.874
7	4 9 48.06	2.3651	22 17 39.1	8.994	7	6 6 17.81	2.4586	26 39 31.9	1.714
8	4 12 10.07	2.3685	22 26 34.7	8.859	8	6 8 45.32	2.4583	26 41 10.0	1.555
9	4 14 32.28	2.3719	22 35 22.2	8.723	9	6 11 12.80	2.4578	26 42 38.5	1.395
10	4 16 54.70	2.3753	22 44 1.5	8.585	10	6 13 40.25	2.4573	26 43 57.4	1.235
11	4 19 17.32	2.3787	22 52 32.4	8.446	11	6 16 7.67	2.4567	26 45 6.7	1.075
12	4 21 40.14	2.3820	23 0 55.0	8.307	12	6 18 35.05	2.4558	26 46 6.4	0.915
13	4 24 3.16	2.3852	23 9 9.2	8.166	13	6 21 2.37	2.4549	26 46 56.5	0.756
14	4 26 26.37	2.3884	23 17 14.9	8.025	14	6 23 29.64	2.4540	26 47 37.1	0.597
15	4 28 49.77	2.3917	23 25 12.2	7.883	15	6 25 56.85	2.4529	26 48 8.1	0.438
16	4 31 13.37	2.3949	23 33 0.9	7.740	16	6 28 23.99	2.4517	26 48 29.6	0.279
17	4 33 37.16	2.3980	23 40 41.0	7.597	17	6 30 51.05	2.4503	26 48 41.6	+ 0.120
18	4 36 1.13	2.4009	23 48 12.5	7.452	18	6 33 18.03	2.4489	26 48 44.0	- 0.038
19	4 38 25.27	2.4038	23 55 35.3	7.307	19	6 35 44.92	2.4473	26 48 20.5	0.196
20	4 40 49.59	2.4068	24 2 49.3	7.160	20	6 38 11.71	2.4457	26 47 19.2	0.058
21	4 43 14.09	2.4097	24 9 54.5	7.013	21	6 40 38.40	2.4439	26 46 34.4	0.824
22	4 45 38.76	2.4125	24 16 50.9	6.866	22	6 43 4.98	2.4420		
23	4 48 3.59	2.4153	24 23 38.4	6.717	23	6 45 31.44	2.4400		
24	4 50 28.59	2.4180	N. 24° 30' 17.0"	6.568	24	6 47 57.78	2.4379		
	4 52 53.75	2.4206				6 50 23.99	2.4357		

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 9.					THURSDAY 11.				
0	h m s	s	N. 26 45 40.3	0.980	0	h m s	s	N. 23 11 57.3	7.578
1	6 52 23.99	2.4357	26 44 36.8	1.136	1	8 43 0.39	2.9288	23 4 19.2	7.691
2	6 52 50.06	2.4333	26 43 36.8	1.136	2	8 45 13.95	2.9232	22 56 34.4	7.802
3	6 55 15.99	2.4309	26 43 24.0	1.291	3	8 47 27.17	2.9175	22 48 42.9	7.913
4	6 57 41.77	2.4283	26 42 1.9	1.446	4	8 49 40.05	2.9118	22 40 44.9	8.022
5	7 0 7.39	2.4257	26 40 30.5	1.600	5	8 51 52.59	2.9061	22 32 40.3	8.130
6	7 2 32.86	2.4231	26 38 49.9	1.753	6	8 54 4.79	2.9004	22 24 29.3	8.236
7	7 4 58.16	2.4202	26 37 0.1	1.906	7	8 56 16.64	2.1947	22 16 12.0	8.342
8	7 7 23.28	2.4172	26 35 1.1	2.059	8	8 58 28.15	2.1889	22 7 48.3	8.447
9	7 9 48.22	2.4142	26 32 53.0	2.211	9	9 0 39.31	2.1832	21 59 18.3	8.551
10	7 12 12.98	2.4111	26 30 35.8	2.362	10	9 2 50.13	2.1774	21 50 42.2	8.652
11	7 14 37.55	2.4078	26 28 9.5	2.512	11	9 5 0.60	2.1716	21 42 0.0	8.753
12	7 17 1.92	2.4044	26 25 34.3	2.662	12	9 7 10.72	2.1658	21 33 11.8	8.853
13	7 19 26.08	2.4009	26 22 50.1	2.812	13	9 9 20.50	2.1601	21 24 17.6	8.952
14	7 21 50.03	2.3974	26 19 56.9	2.960	14	9 11 29.93	2.1543	21 15 17.6	9.049
15	7 24 13.77	2.3938	26 16 54.9	3.108	15	9 13 39.01	2.1485	21 6 11.8	9.145
16	7 26 37.29	2.3901	26 13 44.0	3.255	16	9 15 47.75	2.1427	20 57 0.2	9.241
17	7 29 0.58	2.3863	26 10 24.3	3.401	17	9 17 56.14	2.1369	20 47 42.9	9.334
18	7 31 23.65	2.3825	26 6 55.9	3.546	18	9 20 4.18	2.1311	20 38 20.1	9.426
19	7 33 46.48	2.3785	26 3 18.8	3.690	19	9 22 11.88	2.1254	20 28 51.8	9.517
20	7 36 9.07	2.3744	25 59 33.1	3.834	20	9 24 19.23	2.1197	20 19 18.0	9.608
21	7 38 31.41	2.3702	25 55 38.7	3.977	21	9 26 26.24	2.1140	20 9 38.8	9.697
22	7 40 53.50	2.3660	25 51 35.8	4.119	22	9 28 32.91	2.1082	19 59 54.3	9.785
23	7 43 15.33	2.3617	25 47 24.4	4.261	23	9 30 39.23	2.1025	19 50 4.6	9.872
24	7 45 36.90	2.3573	N. 25 43 4.5	4.401			2.0968		
WEDNESDAY 10.					FRIDAY 12.				
0	7 47 58.21	2.3529	N. 25 38 36.3	4.540	0	9 34 50.85	2.0912	N. 19 40 9.7	9.958
1	7 50 19.25	2.3484	25 33 59.7	4.679	1	9 36 56.15	2.0855	19 30 9.7	10.042
2	7 52 40.01	2.3438	25 29 14.8	4.816	2	9 39 1.11	2.0798	19 20 4.7	10.124
3	7 55 0.50	2.3392	25 24 21.8	4.952	3	9 41 5.73	2.0742	19 9 54.8	10.206
4	7 57 20.71	2.3344	25 19 20.6	5.088	4	9 43 10.02	2.0687	18 59 40.0	10.287
5	7 59 40.63	2.3295	25 14 11.3	5.223	5	9 45 13.97	2.0631	18 49 20.4	10.367
6	8 2 0.25	2.3246	25 8 53.9	5.357	6	9 47 17.59	2.0576	18 38 56.0	10.446
7	8 4 19.58	2.3197	25 3 28.5	5.489	7	9 49 20.88	2.0521	18 28 26.9	10.523
8	8 6 38.62	2.3148	24 57 55.2	5.620	8	9 51 23.84	2.0466	18 17 53.2	10.599
9	8 8 57.36	2.3097	24 52 14.1	5.750	9	9 53 26.47	2.0412	18 7 15.0	10.673
10	8 11 15.79	2.3046	24 46 25.2	5.880	10	9 55 28.78	2.0357	17 56 32.4	10.747
11	8 13 33.91	2.2995	24 40 28.5	6.009	11	9 57 30.76	2.0303	17 45 45.4	10.820
12	8 15 51.73	2.2943	24 34 24.1	6.137	12	9 59 32.42	2.0250	17 34 54.0	10.892
13	8 18 9.23	2.2891	24 28 12.1	6.263	13	10 1 33.76	2.0197	17 23 58.4	10.962
14	8 20 26.42	2.2838	24 21 52.6	6.388	14	10 3 34.78	2.0144	17 12 58.6	11.032
15	8 22 43.29	2.2785	24 15 25.6	6.512	15	10 5 35.49	2.0092	17 1 54.6	11.100
16	8 24 59.84	2.2731	24 8 51.2	6.634	16	10 7 35.88	2.0039	16 50 46.6	11.167
17	8 27 16.06	2.2677	24 2 9.5	6.756	17	10 9 35.96	1.9988	16 39 34.6	11.232
18	8 29 31.96	2.2622	23 55 20.5	6.877	18	10 11 35.74	1.9937	16 28 18.7	11.297
19	8 31 47.53	2.2567	23 48 24.2	6.997	19	10 13 35.21	1.9886	16 16 59.0	11.361
20	8 34 2.77	2.2513	23 41 20.8	7.115	20	10 15 34.37	1.9835	16 5 35.4	11.424
21	8 36 17.68	2.2457	23 34 10.4	7.232	21	10 17 33.23	1.9786	15 54 8.1	11.485
22	8 38 32.25	2.2401	23 26 53.0	7.348	22	10 19 31.80	1.9737	15 42 37.2	11.545
23	8 40 46.49	2.2345	23 19 28.6	7.464	23	10 21 30.07	1.9687	15 31 2.7	11.605
24	8 43 0.39	2.2288	N. 23 11 57.3	7.578	24	10 23 28.04	1.9638	N. 15 19 24.6	11.664

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 13.					MONDAY 15.				
0	10 23 28.04	1.9638	N. 15 19' 24.6"	11.684	0	11 53 7.76	1.7947	N. 5 11' 21.5"	13.318
1	10 25 25.72	1.9590	15 7 43.0	11.721	1	11 54 55.38	1.7937	4 58 2.0	13.339
2	10 27 23.12	1.9542	14 55 58.1	11.776	2	11 56 42.88	1.7908	4 44 41.7	13.345
3	10 29 20.23	1.9495	14 44 9.9	11.831	3	11 58 30.27	1.7889	4 31 20.6	13.357
4	10 31 17.06	1.9448	14 32 18.4	11.886	4	12 0 17.55	1.7871	4 17 58.8	13.368
5	10 33 13.61	1.9402	14 20 23.6	11.939	5	12 2 4.72	1.7853	4 4 36.4	13.378
6	10 35 9.88	1.9355	14 8 25.7	11.991	6	12 3 51.78	1.7835	3 51 13.5	13.387
7	10 37 5.87	1.9310	13 56 24.7	12.042	7	12 5 38.74	1.7819	3 37 50.0	13.396
8	10 39 1.60	1.9266	13 44 20.7	12.092	8	12 7 25.61	1.7804	3 24 26.0	13.403
9	10 40 57.06	1.9221	13 32 13.7	12.140	9	12 9 12.39	1.7789	3 11 1.6	13.410
10	10 42 52.25	1.9178	13 20 3.9	12.188	10	12 10 59.08	1.7775	2 57 36.8	13.417
11	10 44 47.19	1.9135	13 7 51.2	12.235	11	12 12 45.69	1.7761	2 44 11.6	13.423
12	10 46 41.87	1.9092	12 55 35.7	12.281	12	12 14 32.22	1.7748	2 30 46.0	13.428
13	10 48 36.30	1.9050	12 43 17.5	12.326	13	12 16 18.67	1.7736	2 17 20.2	13.432
14	10 50 30.47	1.9008	12 30 56.6	12.369	14	12 18 5.05	1.7725	2 3 54.2	13.435
15	10 52 24.39	1.8967	12 18 33.2	12.412	15	12 19 51.37	1.7714	1 50 28.0	13.438
16	10 54 18.07	1.8927	12 6 7.2	12.454	16	12 21 37.62	1.7703	1 37 1.6	13.440
17	10 56 11.51	1.8886	11 53 38.7	12.496	17	12 23 23.81	1.7693	1 23 35.2	13.441
18	10 58 4.70	1.8846	11 41 7.7	12.536	18	12 25 9.94	1.7684	1 10 8.7	13.442
19	10 59 57.66	1.8806	11 28 34.4	12.574	19	12 26 56.02	1.7676	0 56 42.2	13.442
20	11 1 50.39	1.8770	11 15 58.8	12.612	20	12 28 42.06	1.7669	0 43 15.7	13.441
21	11 3 42.90	1.8739	11 3 20.9	12.650	21	12 30 28.05	1.7662	0 29 49.3	13.439
22	11 5 35.18	1.8695	10 50 40.8	12.687	22	12 32 14.00	1.7656	0 16 23.0	13.437
23	11 7 27.24	1.8659	N. 10 37 58.5	12.722	23	12 33 59.92	1.7650	N. 0 2 56.9	13.434
SUNDAY 14.					TUESDAY 16.				
0	11 9 19.09	1.8623	N. 10 25 14.2	12.755	0	12 35 45.80	1.7644	S. 0 10 29.1	13.431
1	11 11 10.72	1.8587	10 12 27.9	12.788	1	12 37 31.65	1.7641	0 23 54.8	13.426
2	11 13 2.14	1.8553	9 59 39.6	12.821	2	12 39 17.49	1.7638	0 37 20.2	13.421
3	11 14 53.36	1.8520	9 46 49.3	12.854	3	12 41 3.31	1.7635	0 50 45.3	13.415
4	11 16 44.38	1.8486	9 33 57.1	12.885	4	12 42 49.11	1.7632	1 4 10.0	13.409
5	11 18 35.19	1.8452	9 21 3.1	12.914	5	12 44 34.90	1.7631	1 17 34.3	13.402
6	11 20 25.80	1.8419	9 8 7.4	12.943	6	12 46 20.68	1.7630	1 30 58.2	13.394
7	11 22 16.22	1.8388	8 55 10.0	12.971	7	12 48 6.46	1.7630	1 44 21.6	13.385
8	11 24 6.46	1.8357	8 42 10.9	12.998	8	12 49 52.24	1.7630	1 57 44.4	13.376
9	11 25 56.51	1.8327	8 29 10.2	13.025	9	12 51 38.02	1.7631	2 11 6.7	13.367
10	11 27 46.38	1.8297	8 16 7.9	13.050	10	12 53 23.81	1.7634	2 24 28.4	13.356
11	11 29 36.08	1.8268	8 3 4.2	13.074	11	12 55 9.62	1.7637	2 37 49.4	13.345
12	11 31 25.60	1.8239	7 49 59.0	13.098	12	12 56 55.45	1.7640	2 51 9.8	13.333
13	11 33 14.95	1.8212	7 36 52.4	13.121	13	12 58 41.30	1.7643	3 4 29.4	13.320
14	11 35 4.14	1.8185	7 23 44.5	13.143	14	13 0 27.17	1.7647	3 17 48.2	13.307
15	11 36 53.17	1.8158	7 10 35.2	13.165	15	13 2 13.07	1.7653	3 31 6.3	13.294
16	11 38 42.04	1.8132	6 57 24.7	13.185	16	13 3 59.01	1.7659	3 44 23.5	13.279
17	11 40 30.75	1.8106	6 44 13.0	13.205	17	13 5 44.98	1.7665	3 57 39.7	13.263
18	11 42 19.31	1.8082	6 31 0.1	13.224	18	13 7 30.99	1.7673	4 10 55.0	13.247
19	11 44 7.73	1.8058	6 17 46.1	13.249	19	13 9 17.05	1.7681	4 24 9.4	13.231
20	11 45 56.01	1.8034	6 4 31.1	13.259	20	13 11 3.16	1.7689	4 37 22.7	13.214
21	11 47 44.14	1.8011	5 51 15.1	13.275	21	13 12 49.32	1.7698	4 50 35.0	13.196
22	11 49 32.14	1.7989	5 37 58.1	13.291	22	13 14 35.54	1.7708	5 3 46.2	13.177
23	11 51 20.01	1.7968	5 24 40.2	13.305	23	13 16 21.82	1.7719	5 16 56.2	13.157
24	11 53 7.76	1.7947	N. 5 11 21.5	13.318	24	13 18 8.17	1.7731	S. 5 30 5.1	13.137

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 17.					FRIDAY 19.				
0	^h 13 ^m 18 ^s 8.17	1.7731	S. 5 30' 5.1"	13.137	0	^h 14 ^m 45 ^s 49.83	1.9069	S. 15 24' 27.7"	11.346
1	13 19 54.59	1.7743	5 43 12.7	13.117	1	14 47 44.33	1.9106	15 35 46.8	11.290
2	13 21 41.08	1.7755	5 56 19.1	13.096	2	14 49 39.10	1.9150	15 47 2.5	11.233
3	13 23 27.65	1.7769	6 9 24.2	13.074	3	14 51 34.13	1.9194	15 58 14.8	11.176
4	13 25 14.31	1.7783	6 22 28.0	13.052	4	14 53 29.43	1.9240	16 9 23.6	11.117
5	13 27 1.05	1.7797	6 35 30.4	13.028	5	14 55 25.01	1.9286	16 20 28.9	11.057
6	13 28 47.88	1.7813	6 48 31.3	13.003	6	14 57 20.86	1.9332	16 31 30.5	10.997
7	13 30 34.81	1.7829	7 1 30.7	12.979	7	14 59 16.90	1.9379	16 42 28.5	10.936
8	13 32 21.83	1.7845	7 14 28.7	12.954	8	15 1 13.41	1.9426	16 53 22.8	10.873
9	13 34 8.95	1.7863	7 27 25.2	12.928	9	15 3 10.11	1.9474	17 4 13.3	10.810
10	13 35 56.18	1.7889	7 40 20.1	12.901	10	15 5 7.10	1.9523	17 15 0.0	10.746
11	13 37 43.53	1.7901	7 53 13.3	12.873	11	15 7 4.39	1.9573	17 25 42.8	10.682
12	13 39 30.90	1.7920	8 6 4.9	12.846	12	15 9 1.98	1.9623	17 36 21.8	10.617
13	13 41 18.57	1.7940	8 18 54.8	12.817	13	15 10 59.87	1.9673	17 46 56.8	10.549
14	13 43 6.27	1.7961	8 31 42.9	12.787	14	15 12 58.06	1.9723	17 57 27.7	10.481
15	13 44 54.10	1.7983	8 44 29.2	12.757	15	15 14 56.55	1.9774	18 7 54.5	10.412
16	13 46 42.06	1.8005	8 57 13.7	12.726	16	15 16 55.35	1.9826	18 18 17.1	10.342
17	13 48 30.16	1.8027	9 9 56.3	12.694	17	15 18 54.47	1.9879	18 28 35.6	10.272
18	13 50 18.39	1.8051	9 22 36.9	12.661	18	15 20 53.90	1.9932	18 38 49.8	10.201
19	13 52 6.77	1.8076	9 35 15.6	12.628	19	15 22 53.65	1.9985	18 48 59.7	10.128
20	13 53 55.30	1.8100	9 47 52.3	12.595	20	15 24 53.72	2.0039	18 59 5.2	10.055
21	13 55 43.97	1.8125	10 0 27.0	12.561	21	15 26 54.12	2.0093	19 9 6.3	9.981
22	13 57 32.80	1.8151	10 12 59.6	12.525	22	15 28 54.84	2.0147	19 19 2.9	9.905
23	13 59 21.79	1.8178	S. 10 25 30.0	12.488	23	15 30 55.89	2.0203	S. 19 28 54.9	9.828
THURSDAY 18.					SATURDAY 20.				
0	14 1 10.94	1.8206	S. 10 37 58.2	12.452	0	15 32 57.28	2.0259	S. 19 38 42.3	9.751
1	14 3 0.26	1.8234	10 50 24.2	12.415	1	15 34 59.00	2.0315	19 48 25.1	9.673
2	14 4 49.75	1.8263	11 2 48.0	12.377	2	15 37 1.06	2.0371	19 58 3.1	9.593
3	14 6 39.42	1.8293	11 15 9.5	12.338	3	15 39 3.45	2.0428	20 7 36.3	9.513
4	14 8 29.27	1.8323	11 27 28.6	12.298	4	15 41 6.19	2.0486	20 17 4.6	9.432
5	14 10 19.30	1.8353	11 39 45.3	12.258	5	15 43 9.28	2.0543	20 26 28.1	9.350
6	14 12 9.51	1.8384	11 51 59.6	12.217	6	15 45 12.71	2.0601	20 35 46.6	9.267
7	14 13 59.91	1.8417	12 4 11.4	12.176	7	15 47 16.49	2.0659	20 45 0.0	9.182
8	14 15 50.51	1.8451	12 16 20.7	12.133	8	15 49 20.62	2.0718	20 54 8.4	9.097
9	14 17 41.32	1.8486	12 28 27.4	12.090	9	15 51 25.11	2.0778	21 3 11.6	9.009
10	14 19 32.33	1.8518	12 40 31.5	12.046	10	15 53 29.96	2.0837	21 12 9.5	8.921
11	14 21 23.54	1.8552	12 52 32.9	12.002	11	15 55 35.16	2.0897	21 21 2.1	8.832
12	14 23 14.96	1.8588	13 4 31.7	11.957	12	15 57 40.72	2.0957	21 29 49.4	8.743
13	14 25 6.60	1.8625	13 16 27.7	11.910	13	15 59 46.64	2.1017	21 38 31.3	8.652
14	14 26 58.46	1.8661	13 28 20.9	11.862	14	16 1 52.92	2.1078	21 47 7.6	8.559
15	14 28 50.53	1.8697	13 40 11.2	11.814	15	16 3 59.57	2.1139	21 55 38.4	8.466
16	14 30 42.83	1.8736	13 51 38.6	11.765	16	16 6 6.59	2.1200	22 4 3.6	8.373
17	14 32 35.36	1.8775	14 3 43.0	11.716	17	16 8 13.97	2.1261	22 12 23.1	8.278
18	14 34 28.13	1.8814	14 15 24.5	11.667	18	16 10 21.72	2.1322	22 20 36.9	8.182
19	14 36 21.13	1.8853	14 27 3.0	11.615	19	16 12 29.84	2.1384	22 28 44.9	8.083
20	14 38 14.37	1.8894	14 38 38.3	11.563	20	16 14 38.33	2.1447	22 36 46.9	7.984
21	14 40 7.86	1.8936	14 50 10.5	11.510	21	16 16 47.20	2.1509	22 44 43.0	7.885
22	14 42 1.60	1.8977	15 1 39.5	11.457	22	16 18 56.44	2.1571	22 52 33.1	7.784
23	14 43 55.59	1.9019	15 13 5.3	11.402	23	16 21 6.05	2.1633	23 0 17.1	7.682
24	14 45 49.83	1.9069	S. 15 24 27.7	11.346	24	16 23 16.04	2.1696	S. 23 7 54.9	7.578

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 21.					TUESDAY 23.				
0	h m s	s	S. 23° 7' 54.9"	7.578	0	h m s	s	S. 26° 51' 3.5"	1.295
1	16 23 16.04	2.1696	23 15 26.5	7.474	1	18 14 20.93	2.4422	26 52 16.5	1.139
2	16 25 26.40	2.1758	23 22 51.8	7.369	2	18 16 47.65	2.4474	26 53 20.1	0.982
3	16 27 37.14	2.1821	23 30 10.8	7.262	3	18 19 14.62	2.4515	26 54 14.3	0.824
4	16 29 48.26	2.1884	23 37 23.3	7.154	4	18 21 41.83	2.4555	26 54 59.0	0.665
5	16 31 59.75	2.1947	23 44 29.3	7.046	5	18 24 9.28	2.4595	26 55 34.1	0.505
6	16 34 11.62	2.2010	23 51 28.8	6.936	6	18 26 36.97	2.4634	26 55 59.6	0.345
7	16 36 23.87	2.2072	23 58 21.6	6.824	7	18 29 4.89	2.4672	26 56 15.5	0.184
8	16 38 36.49	2.2135	24 5 7.7	6.712	8	18 31 33.03	2.4708	26 56 21.7	- 0.022
9	16 40 49.49	2.2198	24 11 47.0	6.598	9	18 34 1.39	2.4744	26 56 18.2	+ 0.140
10	16 43 2.87	2.2261	24 18 19.5	6.484	10	18 36 29.96	2.4778	26 56 4.9	0.303
11	16 45 16.62	2.2323	24 24 45.1	6.367	11	18 38 58.73	2.4811	26 55 41.8	0.467
12	16 47 30.75	2.2386	24 31 3.6	6.250	12	18 41 27.69	2.4843	26 55 8.9	0.631
13	16 49 45.26	2.2449	24 37 15.1	6.132	13	18 43 56.84	2.4874	26 54 26.1	0.796
14	16 52 0.14	2.2511	24 43 19.5	6.012	14	18 46 26.18	2.4904	26 53 33.4	0.962
15	16 54 15.39	2.2572	24 49 16.6	5.892	15	18 48 55.69	2.4933	26 52 30.7	1.128
16	16 56 31.01	2.2634	24 55 6.5	5.771	16	18 51 25.37	2.4961	26 51 18.1	1.294
17	16 58 47.00	2.2697	25 0 49.1	5.648	17	18 53 55.22	2.4987	26 49 55.4	1.461
18	17 1 3.37	2.2759	25 6 24.3	5.524	18	18 56 25.22	2.5012	26 48 22.7	1.629
19	17 3 20.11	2.2820	25 11 52.0	5.399	19	18 58 55.37	2.5037	26 46 39.9	1.796
20	17 5 37.21	2.2881	25 17 12.2	5.273	20	19 1 25.66	2.5060	26 44 47.1	1.964
21	17 7 54.68	2.2942	25 22 24.7	5.145	21	19 3 56.09	2.5082	26 42 44.2	2.133
22	17 10 12.51	2.3002	25 27 29.6	5.017	22	19 6 26.64	2.5102	26 40 31.1	2.303
23	17 12 30.70	2.3062	25 32 26.7	4.887	23	19 8 57.31	2.5121	S. 26° 38' 7.8"	2.472
24	17 14 49.25	2.3122							
MONDAY 22.					WEDNESDAY 24.				
0	h m s	s	S. 25° 37' 16.0"	4.756	0	h m s	s	S. 26° 35' 34.4"	2.642
1	17 17 8.16	2.3181	25 41 57.4	4.624	1	19 13 58.98	2.5157	26 32 50.8	2.812
2	17 19 27.42	2.3239	25 46 30.9	4.491	2	19 16 29.97	2.5173	26 29 57.0	2.982
3	17 21 47.03	2.3298	25 50 56.3	4.356	3	19 19 1.05	2.5188	26 26 52.9	3.153
4	17 24 7.00	2.3357	25 55 13.6	4.221	4	19 21 32.22	2.5201	26 23 38.6	3.323
5	17 26 27.32	2.3415	25 59 22.8	4.085	5	19 24 3.46	2.5212	26 20 14.1	3.493
6	17 28 47.98	2.3471	26 3 23.8	3.947	6	19 26 34.77	2.5223	26 16 39.4	3.664
7	17 31 8.97	2.3527	26 7 16.5	3.808	7	19 29 6.14	2.5233	26 12 54.4	3.836
8	17 33 30.30	2.3583	26 11 0.8	3.668	8	19 31 37.57	2.5241	26 8 59.1	4.007
9	17 35 51.97	2.3639	26 14 36.7	3.527	9	19 34 9.04	2.5248	26 4 53.5	4.178
10	17 38 13.97	2.3694	26 18 4.1	3.386	10	19 36 40.55	2.5255	26 0 37.7	4.349
11	17 40 36.30	2.3748	26 21 23.0	3.243	11	19 39 12.10	2.5260	25 56 11.6	4.520
12	17 42 58.95	2.3802	26 24 33.3	3.099	12	19 41 43.67	2.5263	25 51 35.3	4.691
13	17 45 21.92	2.3855	26 27 34.9	2.954	13	19 44 15.26	2.5266	25 46 48.7	4.862
14	17 47 45.21	2.3907	26 30 27.8	2.808	14	19 46 46.86	2.5267	25 41 51.9	5.032
15	17 50 8.81	2.3958	26 33 11.9	2.662	15	19 49 18.47	2.5268	25 36 44.8	5.203
16	17 52 32.71	2.4009	26 35 47.2	2.513	16	19 51 50.07	2.5269	25 31 27.5	5.373
17	17 54 56.92	2.4060	26 38 13.5	2.363	17	19 54 21.66	2.5264	25 26 0.0	5.543
18	17 57 21.43	2.4109	26 40 30.8	2.213	18	19 56 53.24	2.5261	25 20 22.3	5.713
19	17 59 46.23	2.4158	26 42 39.1	2.063	19	19 59 24.79	2.5256	25 14 34.4	5.882
20	18 2 11.32	2.4206	26 44 38.4	1.912	20	20 1 56.31	2.5251	25 8 36.4	6.052
21	18 4 36.70	2.4252	26 46 28.5	1.759	21	20 4 27.80	2.5245	25 2 28.2	6.221
22	18 7 2.35	2.4297	26 48 9.4	1.605	22	20 6 59.25	2.5237	24 56 9.9	6.390
23	18 9 28.27	2.4343	26 49 41.1	1.451	23	20 9 30.65	2.5227	24 49 41.5	6.558
24	18 11 54.47	2.4388			24	20 12 1.98	2.5217	S. 24° 43' 3.0"	6.726
25	18 14 20.93	2.4432	S. 26° 51' 3.5"	1.295					

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 25.					SATURDAY 27.				
0	^h 20 ^m 14 ^s 33.25	2.5906	S. 24° 43' 3.0"	6.726	0	^h 22 ^m 12 ^s 44.01	2.3892	S. 16° 23' 2.9"	13.659
1	20 17 4.45	2.5194	24 36 14.4	6.893	1	22 15 6.89	2.3796	16 9 20.0	13.770
2	20 19 35.58	2.5181	24 29 15.9	7.059	2	22 17 29.56	2.3760	15 55 30.5	13.880
3	20 22 6.62	2.5167	24 22 7.4	7.225	3	22 19 52.01	2.3723	15 41 34.4	13.988
4	20 24 37.58	2.5152	24 14 48.9	7.390	4	22 22 14.24	2.3687	15 27 31.9	14.094
5	20 27 8.45	2.5138	24 7 20.6	7.554	5	22 24 36.25	2.3651	15 13 23.1	14.198
6	20 29 39.21	2.5119	23 59 42.4	7.719	6	22 26 58.05	2.3615	14 59 8.1	14.301
7	20 32 9.87	2.5101	23 51 54.3	7.883	7	22 29 19.63	2.3578	14 44 47.0	14.402
8	20 34 40.42	2.5089	23 43 56.5	8.045	8	22 31 40.99	2.3542	14 30 19.9	14.501
9	20 37 10.85	2.5062	23 35 48.9	8.207	9	22 34 2.14	2.3507	14 15 46.9	14.598
10	20 39 41.16	2.5041	23 27 31.6	8.369	10	22 36 23.08	2.3472	14 1 8.2	14.693
11	20 42 11.34	2.5019	23 19 4.6	8.529	11	22 38 43.80	2.3436	13 46 23.8	14.787
12	20 44 41.39	2.4997	23 10 28.1	8.688	12	22 41 4.31	2.3401	13 31 33.8	14.878
13	20 47 11.30	2.4974	23 1 42.0	8.847	13	22 43 24.62	2.3367	13 16 38.4	14.968
14	20 49 41.07	2.4950	22 52 46.4	9.006	14	22 45 44.72	2.3332	13 1 37.6	15.057
15	20 52 10.70	2.4926	22 43 41.3	9.162	15	22 48 4.61	2.3298	12 46 31.6	15.143
16	20 54 40.18	2.4900	22 34 26.9	9.318	16	22 50 24.30	2.3265	12 31 20.5	15.227
17	20 57 9.50	2.4874	22 25 3.1	9.474	17	22 52 43.79	2.3232	12 16 4.4	15.310
18	20 59 38.66	2.4847	22 15 30.0	9.628	18	22 55 3.09	2.3200	12 0 43.3	15.391
19	21 2 7.66	2.4819	22 5 47.7	9.781	19	22 57 22.19	2.3167	11 45 17.5	15.469
20	21 4 36.49	2.4791	21 55 56.3	9.932	20	22 59 41.09	2.3134	11 29 47.0	15.547
21	21 7 5.15	2.4762	21 45 55.8	10.083	21	23 1 59.80	2.3102	11 14 11.9	15.622
22	21 9 33.64	2.4732	21 35 46.3	10.233	22	23 4 18.32	2.3071	10 58 32.4	15.695
23	21 12 1.94	2.4702	S. 21° 25' 27.8"	10.383	23	23 6 36.66	2.3041	S. 10° 42' 48.5"	15.767
FRIDAY 26.					SUNDAY 28.				
0	21 14 30.06	2.4671	S. 21° 15' 0.4"	10.530	0	23 8 54.81	2.3010	S. 10° 27' 0.4"	15.836
1	21 16 57.99	2.4640	21 4 24.2	10.676	1	23 11 12.78	2.2980	10 11 8.2	15.903
2	21 19 25.74	2.4609	20 53 39.3	10.821	2	23 13 30.57	2.2951	9 55 12.0	15.968
3	21 21 53.30	2.4576	20 42 45.7	10.965	3	23 15 48.19	2.2922	9 39 12.0	16.032
4	21 24 20.66	2.4543	20 31 43.5	11.107	4	23 18 5.64	2.2893	9 23 8.2	16.094
5	21 26 47.82	2.4511	20 20 32.8	11.249	5	23 20 22.91	2.2864	9 7 0.7	16.154
6	21 29 14.79	2.4478	20 9 13.6	11.389	6	23 22 40.01	2.2837	8 50 49.7	16.212
7	21 31 41.55	2.4444	19 57 46.1	11.527	7	23 24 56.95	2.2811	8 34 35.3	16.267
8	21 34 8.11	2.4409	19 46 10.3	11.665	8	23 27 13.74	2.2785	8 18 17.6	16.321
9	21 36 34.46	2.4374	19 34 26.3	11.801	9	23 29 30.37	2.2759	8 1 56.8	16.373
10	21 39 0.60	2.4339	19 22 34.2	11.935	10	23 31 46.84	2.2733	7 45 32.9	16.423
11	21 41 26.53	2.4305	19 10 34.1	12.067	11	23 34 3.17	2.2709	7 29 6.0	16.472
12	21 43 52.26	2.4270	18 58 26.1	12.199	12	23 36 19.35	2.2684	7 12 36.3	16.518
13	21 46 17.77	2.4234	18 46 10.2	12.330	13	23 38 35.38	2.2661	6 56 3.9	16.562
14	21 48 43.06	2.4198	18 33 46.5	12.458	14	23 40 51.28	2.2638	6 39 28.9	16.604
15	21 51 8.14	2.4162	18 21 15.2	12.585	15	23 43 7.04	2.2616	6 22 51.4	16.644
16	21 53 33.00	2.4126	18 8 36.3	12.712	16	23 45 22.67	2.2594	6 6 11.6	16.682
17	21 55 57.65	2.4089	17 55 49.8	12.836	17	23 47 38.17	2.2573	5 49 29.5	16.719
18	21 58 22.07	2.4052	17 42 56.0	12.958	18	23 49 53.55	2.2552	5 32 45.3	16.753
19	22 0 46.27	2.4016	17 29 54.9	13.079	19	23 52 8.80	2.2532	5 15 59.1	16.786
20	22 3 10.26	2.3980	17 16 46.5	13.199	20	23 54 23.94	2.2514	4 59 11.0	16.817
21	22 5 34.03	2.3943	17 3 31.0	13.317	21	23 56 38.97	2.2496	4 42 21.1	16.845
22	22 7 57.58	2.3906	16 50 8.5	13.433	22	23 58 53.89	2.2478	4 25 29.6	16.879
23	22 10 20.91	2.3869	16 36 39.1	13.547	23	0 1 8.71	2.2461	4 8 36.5	16.897
24	22 12 44.01	2.3832	S. 16° 23' 2.9"	13.659	24	0 3 23.42	2.2444	S. 3° 51' 42.0"	16.919

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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MONDAY 29.

0	h m s	a	S. 3° 51' 42.0"	16.919
1	0 3 23.42	2.9444	3 34 46.2	16.940
2	0 5 38.04	2.9429	3 17 49.2	16.958
3	0 7 52.57	2.9414	3 0 51.2	16.975
4	0 10 7.00	2.9399	2 43 52.2	16.991
5	0 12 21.35	2.9385	2 26 52.3	17.004
6	0 14 35.62	2.9373	2 9 51.7	17.015
7	0 16 49.82	2.9361	1 52 50.5	17.024
8	0 19 3.95	2.9349	1 35 48.8	17.031
9	0 21 18.01	2.9338	1 18 46.8	17.036
10	0 23 32.00	2.9327	1 1 44.5	17.040
11	0 25 45.94	2.9318	0 44 42.0	17.042
12	0 27 59.82	2.9309	0 27 39.5	17.041
13	0 30 13.65	2.9301	S. 0 10 37.1	17.038
14	0 32 27.43	2.9294	N. 0 6 25.1	17.034
15	0 34 41.18	2.9288	0 23 27.0	17.028
16	0 36 54.89	2.9282	0 40 28.5	17.020
17	0 39 8.57	2.9277	0 57 29.4	17.010
18	0 41 22.22	2.9272	1 14 29.7	16.998
19	0 43 35.84	2.9268	1 31 29.2	16.984
20	0 45 49.44	2.9266	1 48 27.8	16.969
21	0 48 3.03	2.9264	2 5 25.5	16.953
22	0 50 16.61	2.9262	2 22 22.1	16.933
23	0 52 30.18	2.9260	N. 2 39 17.5	16.912
	0 54 43.75	2.9259		

TUESDAY, MARCH 1.

0	0 56 57.32	2.9252	N. 2 56 11.5	16.888
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PHASES OF THE MOON.

☾ First Quarter . . .	Feb.	d	h	m
○ Full Moon		12	7	38.1
☾ Last Quarter		20	12	14.7
● New Moon		27	15	47.3

☾ Apogee.	Feb.	d	h
☾ Perigee.		16	21.8
		28	23.8

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SUN W.	38° 16' 4"	2510	39° 57' 3"	2509	41° 38' 4"	2509	43° 19' 5"	2510
	α Arietis E.	47 59 31	2317	46 13 57	2330	44 28 41	2344	42 43 45	2350
	Aldebaran E.	77 44 49	2188	75 56 4	2190	74 7 22	2193	72 18 44	2197
2	SUN W.	51 43 31	2524	53 24 11	2528	55 4 45	2533	56 45 12	2539
	VENUS W.	19 2 17	2632	20 40 29	2629	22 18 45	2626	23 57 4	2626
	Aldebaran E.	63 17 11	2222	61 29 16	2222	59 41 31	2225	57 53 56	2243
	Pollux E.	107 14 13	2186	105 25 25	2192	103 36 45	2197	101 48 13	2202
3	SUN W.	65 5 25	2571	66 45 0	2578	68 24 25	2586	70 3 39	2594
	α Pegasi W.	34 45 40	2668	36 3 1	2655	37 22 24	2658	38 43 35	2673
	VENUS W.	32 8 0	2646	33 45 53	2651	35 23 39	2657	37 1 16	2664
	JUPITER W.	29 12 49	2328	30 58 7	2333	32 43 18	2339	34 28 21	2345
	Aldebaran E.	48 59 5	2288	47 12 48	2299	45 26 47	2311	43 41 3	2322
	Pollux E.	92 47 48	2236	91 0 14	2243	89 12 50	2250	87 25 37	2258
4	SUN W.	78 17 0	2638	79 55 4	2646	81 32 56	2655	83 10 36	2665
	α Pegasi W.	45 49 49	2696	47 18 4	2660	48 47 3	2628	50 16 41	2601
	VENUS W.	45 6 53	2704	46 43 28	2713	48 19 51	2721	49 56 3	2730
	JUPITER W.	43 11 18	2380	44 55 22	2387	46 39 15	2396	48 22 56	2403
	Aldebaran E.	34 57 8	2396	33 13 27	2415	31 30 13	2434	29 47 27	2457
	Pollux E.	78 32 32	2300	76 46 32	2308	75 0 44	2317	73 15 10	2326
5	SUN W.	91 15 43	2713	92 52 5	2723	94 28 14	2733	96 4 10	2743
	VENUS W.	57 54 0	2777	59 28 58	2786	61 3 44	2796	62 38 17	2806
	α Pegasi W.	57 51 50	2914	59 23 51	2904	60 56 5	2896	62 28 29	2888
	JUPITER W.	56 58 22	2447	58 40 50	2456	60 23 5	2465	62 5 8	2474
	Pollux E.	64 30 32	2371	62 46 16	2380	61 2 13	2390	59 18 24	2399
	Regulus E.	100 52 22	2381	99 8 20	2390	97 24 31	2399	95 40 55	2406
6	SUN W.	104 0 33	2793	105 35 10	2803	107 9 34	2813	108 43 45	2824
	JUPITER W.	70 32 11	2520	72 12 57	2528	73 53 31	2538	75 33 52	2546
	VENUS W.	70 27 51	2855	72 1 8	2865	73 34 12	2874	75 7 4	2883
	α Pegasi W.	70 12 6	2875	71 44 57	2876	73 17 47	2877	74 50 35	2880
	α Arietis W.	26 34 7	2878	28 6 54	2841	29 40 29	2811	31 14 42	2787
	Pollux E.	50 42 38	2446	49 0 9	2455	47 17 53	2465	45 35 50	2475
	Regulus E.	87 6 8	2454	85 23 50	2462	83 41 44	2472	81 59 51	2481
7	SUN W.	116 31 22	2873	118 4 15	2884	119 36 54	2894	121 9 21	2905
	JUPITER W.	83 52 30	2591	85 31 37	2601	87 10 31	2610	88 49 13	2618
	VENUS W.	82 48 18	2832	84 19 56	2842	85 51 22	2851	87 22 36	2862
	α Pegasi W.	82 33 32	2901	84 5 49	2909	85 37 57	2916	87 9 56	2923
	α Arietis W.	39 11 52	2794	40 48 0	2719	42 24 15	2716	44 0 34	2713
	Pollux E.	37 8 56	2522	35 28 13	2532	33 47 44	2542	32 7 29	2551
	Regulus E.	73 33 39	2527	71 53 3	2536	70 12 39	2545	68 32 28	2553
8	α Pegasi W.	94 47 16	2969	96 18 7	2980	97 48 45	2991	99 19 9	3004
	α Arietis W.	52 2 29	2716	53 38 47	2719	55 15 1	2722	56 51 11	2727
	Aldebaran W.	21 31 15	2807	23 5 34	2787	24 40 19	2772	26 15 23	2762
	Regulus E.	60 14 40	2599	58 35 44	2609	56 57 1	2618	55 18 30	2627
	SATURN E.	91 8 11	2566	89 28 30	2574	87 49 0	2583	86 9 42	2591
	Spica E.	114 17 45	2597	112 38 46	2605	110 59 58	2613	109 21 21	2622

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XV ^h .	P. L. of Diff.	XVIII ^h .	P. L. of Diff.	XXI ^h .	P. L. of Diff.
1	SUN	W.	45 0 4	2519	46 41 1	2514	48 21 55	2517	50 2 45	2520
	α Arietis	E.	40 59 12	2378	39 15 5	2396	37 31 28	2422	35 48 25	2450
	Aldebaran	E.	70 30 12	2201	68 41 46	2206	66 53 27	2210	65 5 15	2216
2	SUN	W.	58 25 31	2544	60 5 43	2551	61 45 46	2557	63 25 40	2564
	VENUS	W.	25 35 23	2699	27 13 39	2631	28 51 52	2635	30 29 59	2640
	Aldebaran	E.	56 6 33	2251	54 19 21	2200	52 32 22	2268	50 45 36	2279
	Pollux	E.	99 59 49	2208	98 11 34	2215	96 23 29	2221	94 35 33	2229
3	SUN	W.	71 42 42	2602	73 21 34	2610	75 0 15	2619	76 38 44	2629
	α Pegasi	W.	40 6 22	3301	41 30 32	3228	42 55 56	3184	44 22 24	3137
	VENUS	W.	38 38 44	2672	40 16 2	2679	41 53 10	2687	43 30 7	2695
	JUPITER	W.	36 13 15	2350	37 58 1	2357	39 42 37	2364	41 27 3	2372
	Aldebaran	E.	41 55 36	2335	40 10 28	2349	38 25 40	2364	36 41 13	2379
	Pollux	E.	85 38 36	2266	83 51 47	2274	82 5 10	2283	80 18 45	2291
4	SUN	W.	84 48 3	2675	86 25 17	2684	88 2 19	2693	89 39 8	2704
	α Pegasi	W.	51 46 52	2978	53 17 32	2958	54 48 38	2941	56 20 5	2927
	VENUS	W.	51 32 3	2739	53 7 51	2749	54 43 26	2758	56 18 49	2767
	JUPITER	W.	50 6 26	2412	51 49 44	2421	53 32 49	2429	55 15 42	2438
	Aldebaran	E.	28 5 13	2489	26 23 34	2510	24 42 35	2543	23 2 22	2583
	Pollux	E.	71 29 48	2335	69 44 40	2344	67 59 44	2353	66 15 1	2362
5	SUN	W.	97 39 53	2753	99 15 23	2763	100 50 39	2772	102 25 43	2783
	VENUS	W.	64 12 37	2816	65 46 44	2825	67 20 39	2835	68 54 21	2845
	α Pegasi	W.	64 1 2	2883	65 33 42	2880	67 6 27	2877	68 39 15	2875
	JUPITER	W.	63 46 58	2483	65 28 35	2492	67 10 0	2501	68 51 12	2510
	Pollux	E.	57 34 48	2408	55 51 25	2418	54 8 16	2427	52 25 20	2437
	Regulus	E.	93 57 31	2417	92 14 21	2426	90 31 24	2436	88 48 40	2444
6	SUN	W.	110 17 42	2833	111 51 27	2844	113 24 58	2853	114 58 17	2864
	JUPITER	W.	77 14 1	2556	78 53 57	2565	80 33 40	2574	82 13 11	2583
	VENUS	W.	76 39 44	2894	78 12 11	2903	79 44 26	2913	81 16 28	2923
	α Pegasi	W.	76 23 20	2883	77 56 1	2886	79 28 38	2891	81 1 8	2896
	α Arietis	W.	32 49 27	2768	34 24 37	2753	36 0 7	2741	37 35 53	2731
	Pollux	E.	43 54 1	2484	42 12 25	2493	40 31 2	2502	38 49 52	2512
	Regulus	E.	80 18 11	2420	78 36 44	2429	76 55 30	2508	75 14 28	2517
7	SUN	W.	122 41 34	2914	124 13 35	2925	125 45 22	2935	127 16 57	2946
	JUPITER	W.	90 27 43	2627	92 6 1	2636	93 44 7	2645	95 22 1	2654
	VENUS	W.	88 53 37	2970	90 24 27	2980	91 55 5	2989	93 25 31	2998
	α Pegasi	W.	88 41 46	2931	90 13 25	2939	91 44 54	2949	93 16 11	2958
	α Arietis	W.	45 36 57	2719	47 13 21	2712	48 49 45	2713	50 26 8	2714
	Pollux	E.	30 27 27	2561	28 47 39	2572	27 8 6	2583	25 28 47	2593
	Regulus	E.	66 52 29	2563	65 12 43	2572	63 33 9	2581	61 53 48	2591
8	α Pegasi	W.	100 49 17	3017	102 19 9	3030	103 48 45	3044	105 18 3	3059
	α Arietis	W.	58 27 15	2731	60 3 14	2736	61 39 6	2741	63 14 52	2746
	Aldebaran	W.	27 50 41	2754	29 26 9	2749	31 1 44	2746	32 37 23	2744
	Regulus	E.	53 40 12	2637	52 2 7	2646	50 24 14	2655	48 46 34	2665
	SATURN	E.	84 30 35	2599	82 51 39	2608	81 12 55	2616	79 34 22	2625
	Spica	E.	107 42 56	2629	106 4 41	2638	104 26 38	2646	102 48 46	2655

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
9	α Arietis W.	64 50 31	9751	66 26 3	9757	68 1 27	9763	69 36 43	9769
	Aldebaran W.	34 13 4	9744	35 48 45	9746	37 24 24	9748	39 0 0	9750
	Regulus E.	47 9 7	9675	45 31 53	9684	43 54 52	9695	42 18 5	9704
	SATURN E.	77 56 1	9633	76 17 51	9641	74 39 53	9649	73 2 4	9658
	Spica E.	101 11 5	9663	99 33 35	9671	97 56 16	9679	96 19 8	9687
10	α Arietis W.	77 30 55	9804	79 5 18	9811	80 39 31	9818	82 13 35	9826
	Aldebaran W.	46 56 51	9772	48 31 55	9779	50 6 51	9784	51 41 40	9790
	Regulus E.	34 17 38	9760	32 42 17	9772	31 7 13	9785	29 32 26	9798
	SATURN E.	64 55 53	9699	63 19 12	9707	61 42 42	9716	60 6 23	9725
	Spica E.	88 16 14	9729	86 40 12	9738	85 4 22	9745	83 28 42	9754
11	α Arietis W.	90 1 23	9866	91 34 25	9875	93 7 16	9883	94 39 56	9892
	Aldebaran W.	50 33 38	9824	61 7 35	9831	62 41 23	9838	64 15 2	9845
	SATURN E.	52 7 35	9766	50 32 23	9774	48 57 21	9782	47 22 30	9791
	Spica E.	75 33 12	9796	73 58 39	9805	72 24 18	9813	70 50 7	9822
12	Aldebaran W.	72 0 52	9863	73 33 33	9891	75 6 4	9898	76 38 25	9905
	Pollux W.	27 48 25	9864	29 21 30	9871	30 54 26	9878	32 27 13	9884
	SATURN E.	39 30 59	9833	37 57 14	9841	36 23 39	9849	34 50 15	9858
	Spica E.	63 2 2	9865	61 28 58	9874	59 56 6	9882	58 23 24	9891
	Antares E.	108 54 11	9855	107 20 55	9863	105 47 49	9871	104 14 53	9880
13	Aldebaran W.	84 17 44	9945	85 49 6	9952	87 20 19	9960	88 51 22	9968
	Pollux W.	40 8 54	9921	41 40 46	9928	43 12 20	9935	44 44 3	9942
	Spica E.	50 42 45	9935	49 11 10	9944	47 39 47	9953	46 8 35	9960
	Antares E.	96 32 49	9919	95 0 54	9927	93 29 9	9935	91 57 34	9942
	MARS E.	100 6 12	3139	98 38 50	3148	97 11 39	3157	95 44 38	3164
14	Aldebaran W.	96 24 16	3005	97 54 23	3011	99 24 22	3018	100 54 12	3026
	Pollux W.	52 19 38	2977	53 50 19	2984	55 20 52	2990	56 51 17	2997
	Regulus W.	16 27 57	3129	17 55 31	3114	19 23 24	3102	20 51 31	3094
	Spica E.	38 35 23	3007	37 5 19	3016	35 35 26	3026	34 5 45	3035
	Antares E.	84 21 58	2978	82 51 18	2985	81 20 47	2992	79 50 24	2998
15	MARS E.	88 31 52	3303	87 5 46	3309	85 39 48	3317	84 13 59	3324
	Pollux W.	64 21 23	3026	65 51 3	3032	67 20 36	3037	68 50 3	3042
	Regulus W.	28 13 48	3080	29 42 22	3081	31 10 55	3083	32 39 27	3089
	Antares E.	72 20 29	3029	70 50 52	3034	69 21 22	3040	67 51 59	3045
	MARS E.	77 6 52	3256	75 41 49	3261	74 16 52	3267	72 52 2	3273
16	Pollux W.	76 15 55	3062	77 44 51	3065	79 13 43	3069	80 42 31	3071
	Regulus W.	40 1 43	3091	41 30 4	3091	42 58 24	3093	44 26 42	3095
	Antares E.	60 26 30	3067	58 57 40	3070	57 28 54	3073	56 0 12	3077
	MARS E.	65 49 21	3394	64 25 3	3399	63 0 50	3392	61 36 41	3395
	SUN E.	138 55 28	3484	137 34 46	3485	136 14 5	3487	134 53 26	3488
17	Pollux W.	88 5 52	3079	89 34 27	3080	91 3 1	3080	92 31 35	3079
	Regulus W.	51 47 53	3097	53 16 6	3097	54 44 19	3096	56 12 33	3096
	SATURN W.	21 13 46	3064	22 42 40	3063	24 11 35	3062	25 40 31	3061
	Antares E.	48 37 30	3067	47 9 4	3068	45 40 40	3068	44 12 16	3069
	MARS E.	54 36 37	3314	53 12 42	3315	51 48 48	3316	50 24 55	3316

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
9	α Arietis W.	71 11 51	9776	72 46 50	9788	74 21 41	9789	75 56 23	9797
	Aldebaran W.	40 35 33	9754	42 11 1	9758	43 46 24	9763	45 21 41	9768
	Regulus E.	40 41 31	9715	39 5 11	9735	37 29 5	9737	35 53 14	9748
	SATURN E.	71 24 28	9686	69 47 2	9675	68 9 48	9683	66 32 45	9691
	Spica E.	94 42 11	9695	93 5 25	9704	91 28 50	9713	89 52 26	9731
10	α Arietis W.	83 47 29	9834	85 21 13	9842	86 54 47	9850	88 28 10	9858
	Aldebaran W.	53 16 21	9797	54 50 53	9803	56 25 17	9810	57 59 32	9817
	Regulus E.	27 57 56	9813	26 23 45	9830	24 49 56	9848	23 16 30	9867
	SATURN E.	58 30 16	9732	56 54 19	9741	55 18 33	9750	53 42 59	9757
	Spica E.	81 53 14	9763	80 17 57	9771	78 42 51	9779	77 7 56	9788
11	α Arietis W.	96 12 25	9901	97 44 43	9909	99 16 50	9919	100 48 45	9937
	Aldebaran W.	65 48 31	9859	67 21 51	9880	68 55 1	9888	70 28 1	9875
	SATURN E.	45 47 50	9799	44 13 21	9808	42 39 3	9816	41 4 56	9824
	Spica E.	69 16 8	9831	67 42 20	9839	66 8 43	9848	64 35 17	9856
12	Aldebaran W.	78 10 37	9914	79 42 38	9921	81 14 30	9929	82 46 12	9937
	Pollux W.	33 59 52	9891	35 32 22	9899	37 4 42	9906	38 36 53	9914
	SATURN E.	33 17 2	9866	31 44 0	9874	30 11 8	9883	28 38 28	9891
	Spica E.	56 50 54	9900	55 18 35	9909	53 46 27	9917	52 14 30	9927
	Antares E.	102 42 8	9887	101 9 33	9895	99 37 8	9904	98 4 54	9911
13	Aldebaran W.	90 22 15	9975	91 52 59	9982	93 23 34	9989	94 54 0	9997
	Pollux W.	46 15 28	9950	47 46 44	9957	49 17 51	9964	50 48 49	9971
	Spica E.	44 37 34	9970	43 6 44	9980	41 36 6	9989	40 5 39	9997
	Antares E.	90 26 8	9950	88 54 52	9957	87 23 45	9964	85 52 47	9971
	Mars E.	94 17 46	3173	92 51 4	3180	91 24 31	3188	89 58 7	3195
14	Aldebaran W.	102 23 53	3032	103 53 26	3039	105 22 50	3046	106 52 6	3052
	Pollux W.	58 21 33	3003	59 51 42	3009	61 21 43	3015	62 51 37	3022
	Regulus W.	22 19 48	3088	23 48 12	3083	25 16 42	3089	26 45 14	3090
	Spica E.	32 36 16	3046	31 7 0	3056	29 37 56	3067	28 9 6	3078
	Antares E.	78 20 9	3005	76 50 3	3011	75 20 4	3018	73 50 13	3023
	Mars E.	82 48 18	3231	81 22 45	3237	79 57 20	3243	78 32 2	3250
15	Pollux W.	70 19 24	3046	71 48 40	3051	73 17 50	3055	74 46 55	3059
	Regulus W.	34 7 58	3084	35 36 27	3088	37 4 54	3087	38 33 19	3088
	Antares E.	66 22 42	3050	64 53 31	3054	63 24 25	3059	61 55 25	3063
	Mars E.	71 27 19	3278	70 2 42	3282	68 38 10	3287	67 13 43	3291
16	Pollux W.	82 11 16	3073	83 39 58	3075	85 8 38	3077	86 37 16	3078
	Regulus W.	45 54 58	3096	47 23 13	3096	48 51 27	3097	50 19 40	3097
	Antares E.	54 31 34	3079	53 2 59	3082	51 34 27	3083	50 5 57	3086
	Mars E.	60 12 35	3307	58 48 32	3310	57 24 32	3312	56 0 34	3313
	SUN E.	133 32 49	3489	132 12 13	3490	130 51 38	3491	129 31 4	3491
17	Pollux W.	94 0 10	3079	95 28 45	3078	96 57 22	3077	98 26 0	3075
	Regulus W.	57 40 48	3094	59 9 5	3093	60 37 23	3091	62 5 44	3089
	SATURN W.	27 9 28	3080	28 38 27	3058	30 7 28	3056	31 36 32	3053
	Antares E.	42 43 53	3089	41 15 30	3089	39 47 7	3088	38 18 43	3087
	Mars E.	49 1 2	3315	47 37 8	3315	46 13 14	3313	44 49 18	3312

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
17	α Aquilæ	E.	97° 33' 22"	3905	96° 20' 7"	3903	95° 6' 49"	3898	93° 53' 27"	3895
	SUN	E.	128 10 30	3491	126 49 56	3491	125 29 22	3490	124 8 47	3488
18	Regulus	W.	63 34 7	3088	65 2 34	3083	66 31 4	3079	67 59 39	3075
	SATURN	W.	33 5 39	3051	34 34 49	3047	36 4 3	3044	37 33 21	3041
	Antares	E.	36 50 18	3087	35 21 52	3085	33 53 24	3083	32 24 54	3082
	MARS	E.	43 25 21	3310	42 1 21	3308	40 37 19	3306	39 13 14	3302
	α Aquilæ	E.	87 46 1	3887	86 32 28	3887	85 18 55	3888	84 5 23	3888
	SUN	E.	117 25 24	3478	116 4 35	3475	114 43 43	3471	113 22 46	3466
19	Regulus	W.	75 23 56	3049	76 53 8	3043	78 22 27	3036	79 51 55	3032
	SATURN	W.	45 1 12	3014	46 31 7	3008	48 1 10	3001	49 31 21	2993
	Spica	W.	21 33 24	3197	23 1 1	3110	24 28 59	3065	25 57 15	3079
	MARS	E.	32 11 43	3281	30 47 9	3276	29 22 29	3270	27 57 43	3265
	α Aquilæ	E.	77 58 5	3909	76 44 47	3906	75 31 33	3911	74 18 24	3918
	SUN	E.	106 36 38	3437	105 15 3	3431	103 53 21	3423	102 31 30	3415
20	Regulus	W.	87 21 43	2985	88 52 14	2975	90 22 58	2965	91 53 55	2954
	SATURN	W.	57 4 48	2950	58 36 3	2940	60 7 31	2930	61 39 12	2920
	Spica	W.	33 22 55	3013	34 52 52	3000	36 23 5	2987	37 53 34	2973
	α Aquilæ	E.	68 14 31	3902	67 2 14	3974	65 50 9	3969	64 38 19	4005
	SUN	E.	95 39 47	3386	94 16 52	3356	92 53 45	3345	91 30 25	3332
21	Regulus	W.	99 32 15	2893	101 4 43	2880	102 37 27	2866	104 10 29	2852
	SATURN	W.	69 21 16	2958	70 54 29	2944	72 28 0	2931	74 1 48	2916
	Spica	W.	45 30 15	2904	47 2 29	2890	48 35 1	2875	50 7 52	2859
	α Aquilæ	E.	58 43 40	4118	57 33 54	4148	56 24 37	4180	55 15 52	4218
	SUN	E.	84 30 6	3966	83 5 15	3951	81 40 6	3936	80 14 40	3920
22	SATURN	W.	81 55 37	2740	83 31 24	2734	85 7 32	2707	86 44 2	2690
	Spica	W.	57 57 11	2779	59 32 6	2769	61 7 24	2745	62 43 4	2728
	α Aquilæ	E.	49 42 21	4482	48 38 13	4554	47 35 8	4635	46 33 13	4726
	SUN	E.	73 2 45	3138	71 35 22	3121	70 7 38	3103	68 39 32	3086
23	SATURN	W.	94 52 18	2603	96 31 9	2585	98 10 24	2567	99 50 4	2548
	Spica	W.	70 47 15	2638	72 25 18	2621	74 3 45	2601	75 42 38	2583
	Antares	W.	24 54 58	2656	26 32 37	2635	28 10 45	2613	29 49 22	2592
	SUN	E.	61 13 30	2903	59 43 8	2874	58 12 23	2854	56 41 13	2835
24	Spica	W.	84 3 25	2490	85 44 52	2473	87 26 45	2453	89 9 5	2435
	Antares	W.	38 9 29	2492	39 50 53	2473	41 32 45	2453	43 15 4	2434
	MARS	W.	27 51 45	2698	29 28 28	2676	31 5 40	2655	32 43 20	2635
	SUN	E.	48 59 20	2841	47 25 45	2823	45 51 45	2804	44 17 22	2785
25	Spica	W.	97 47 9	2346	99 32 2	2328	101 17 20	2311	103 3 3	2295
	Antares	W.	51 53 23	2342	53 38 22	2324	55 23 47	2307	57 9 37	2290
	MARS	W.	40 58 31	2537	42 38 53	2517	44 19 42	2499	46 0 56	2481
	SUN	E.	36 19 39	2701	34 43 1	2687	33 6 3	2673	31 28 47	2660
26	SUN	W.	19 12 57	2460	20 55 6	2442	22 37 41	2429	24 20 34	2419
	α Arietis	E.	39 17 3	2247	37 29 46	2228	35 43 0	2224	33 56 51	2224
	Aldebaran	E.	68 47 39	2067	66 55 49	2070	65 4 4	2073	63 12 24	2077

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
17	α Aquilæ E.	92° 40' 2"	3693	91° 26' 35"	3690	90° 13' 5"	3689	88° 59' 34"	3687
	SUN E.	122 48 10	3488	121 27 32	3486	120 6 52	3483	118 46 9	3481
18	Regulus W.	69 28 19	3071	70 57 4	3066	72 25 55	3061	73 54 52	3056
	SATURN W.	39 2 43	3036	40 32 11	3031	42 1 45	3026	43 31 25	3021
	Antares E.	30 56 22	3079	29 27 47	3078	27 59 10	3074	26 30 29	3072
	MARS E.	37 49 5	3299	36 24 52	3294	35 0 34	3290	33 36 11	3286
	α Aquilæ E.	82 51 51	3890	81 38 21	3892	80 24 53	3894	79 11 27	3896
	SUN E.	112 1 44	3462	110 40 37	3456	109 19 24	3451	107 58 5	3444
19	Regulus W.	81 21 32	3021	82 51 19	3013	84 21 16	3004	85 51 24	2995
	SATURN W.	51 1 42	2988	52 32 12	2977	54 2 53	2969	55 33 45	2960
	Spica W.	27 25 50	3065	28 54 42	3059	30 23 50	3039	31 53 14	3026
	MARS E.	26 32 50	3259	25 7 51	3253	23 42 44	3247	22 17 30	3241
	α Aquilæ E.	73 5 22	3994	71 52 27	3931	70 39 39	3940	69 27 0	3950
	SUN E.	101 9 30	3406	99 47 20	3397	98 25 0	3387	97 2 29	3377
20	Regulus W.	93 25 5	2942	94 56 30	2931	96 28 9	2919	98 0 4	2906
	SATURN W.	63 11 6	2906	64 43 15	2896	66 15 39	2883	67 48 19	2870
	Spica W.	39 24 20	2961	40 55 22	2946	42 26 42	2930	43 58 20	2919
	α Aquilæ E.	63 26 44	4023	62 15 27	4042	61 4 29	4065	59 53 53	4088
	SUN E.	90 6 51	3319	88 43 2	3307	87 18 59	3294	85 54 40	3281
21	Regulus W.	105 43 49	2838	107 17 27	2823	108 51 25	2808	110 25 42	2793
	SATURN W.	75 35 55	2901	77 10 21	2787	78 45 6	2773	80 20 11	2756
	Spica W.	51 41 3	2944	53 14 34	2928	54 48 25	2912	56 22 37	2796
	α Aquilæ E.	54 7 43	4260	53 0 13	4306	51 53 26	4358	50 47 27	4417
	SUN E.	78 48 55	3205	77 22 52	3188	75 56 29	3173	74 29 47	3156
22	SATURN W.	88 20 55	2674	89 58 10	2657	91 35 49	2639	93 13 51	2621
	Spica W.	64 19 7	2710	65 55 33	2699	67 32 23	2675	69 9 37	2657
	α Aquilæ E.	45 32 35	4227	44 33 21	4240	43 35 38	5068	42 39 36	5214
	SUN E.	67 11 5	3067	65 42 15	3049	64 13 3	3030	62 43 28	3012
23	SATURN W.	101 30 10	2530	103 10 41	2512	104 51 37	2494	106 32 59	2475
	Spica W.	77 21 56	2564	79 1 40	2546	80 41 49	2527	82 22 24	2509
	Antares W.	31 26 28	2572	33 8 2	2553	34 48 3	2539	36 28 32	2519
	SUN E.	55 9 39	2916	53 37 41	2897	52 5 18	2878	50 32 31	2859
24	Spica W.	90 51 50	2417	92 35 1	2398	94 18 38	2380	96 2 41	2363
	Antares W.	44 57 50	2415	46 41 3	2396	48 24 43	2378	50 8 50	2359
	MARS W.	34 21 28	2615	36 0 3	2594	37 39 6	2575	39 18 35	2556
	SUN E.	42 42 35	2768	41 7 25	2750	39 31 52	2733	37 55 56	2717
25	Spica W.	104 49 10	2279	106 35 41	2263	108 22 35	2247	110 9 52	2233
	Antares W.	58 55 51	2273	60 42 30	2257	62 29 33	2241	64 17 0	2226
	MARS W.	47 42 36	2464	49 24 40	2447	51 7 8	2430	52 50 0	2414
	SUN E.	29 51 13	2649	28 13 24	2638	26 35 21	2630	24 57 7	2606
29	SUN W.	26 3 41	2413	27 46 57	2410	29 30 18	2406	31 13 42	2408
	α Arietis E.	32 11 25	2358	30 26 50	2400	28 43 15	2449	27 0 50	2508
	Aldebaran E.	61 20 50	2083	59 29 24	2068	57 38 6	2095	55 46 59	2109

AT GREENWICH APPARENT NOON

THE SUN'S									
Day of the Week.	Day of the Month.	Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi- diameter.	Sidereal Time of Semi- diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
Tues.	1	^h 22 ^m 51 ^s 25.75	9.350	S. 7° 17' 16.6"	+57.20	16' 10".27	65.38	^m 12 ^s 23.53	0.505
Wed.	2	22 55 9.88	9.329	6 54 20.5	57.45	16 10.03	65.31	12 11.15	0.526
Thur.	3	22 58 53.52	9.309	6 31 18.6	57.68	16 9.79	65.25	11 58.28	0.546
Frid.	4	23 2 36.69	9.290	6 8 11.3	+57.89	16 9.55	65.18	11 44.93	0.565
Sat.	5	23 6 19.40	9.271	5 44 59.2	58.09	16 9.30	65.12	11 31.12	0.584
SUN.	6	23 10 1.67	9.252	5 21 42.6	58.26	16 9.05	65.06	11 16.87	0.602
Mon.	7	23 13 43.52	9.235	4 58 21.8	+58.43	16 8.80	65.00	11 2.21	0.619
Tues.	8	23 17 24.98	9.219	4 34 57.2	58.58	16 8.55	64.94	10 47.16	0.635
Wed.	9	23 21 6.06	9.204	4 11 29.3	58.72	16 8.29	64.89	10 31.73	0.650
Thur.	10	23 24 46.79	9.190	3 47 58.4	+58.84	16 8.03	64.84	10 15.94	0.664
Frid.	11	23 28 27.18	9.177	3 24 24.9	58.95	16 7.77	64.80	9 59.82	0.677
Sat.	12	23 32 7.27	9.165	3 0 49.1	59.04	16 7.51	64.76	9 43.39	0.689
SUN.	13	23 35 47.07	9.153	2 37 11.3	+59.11	16 7.24	64.72	9 26.69	0.701
Mon.	14	23 39 26.61	9.143	2 13 31.9	59.17	16 6.97	64.68	9 9.73	0.711
Tues.	15	23 43 5.92	9.133	1 49 51.3	59.21	16 6.70	64.65	8 52.53	0.721
Wed.	16	23 46 45.01	9.125	1 26 9.8	+59.24	16 6.43	64.62	8 35.12	0.729
Thur.	17	23 50 23.91	9.118	1 2 27.7	59.26	16 6.15	64.59	8 17.52	0.736
Frid.	18	23 54 2.65	9.112	0 38 45.4	59.26	16 5.88	64.57	7 59.76	0.742
Sat.	19	23 57 41.26	9.106	S. 0 15 3.2	+59.25	16 5.60	64.55	7 41.85	0.748
SUN.	20	0 1 19.74	9.101	N. 0 8 38.6	59.22	16 5.32	64.53	7 23.82	0.753
Mon.	21	0 4 58.12	9.097	0 32 19.6	59.18	16 5.04	64.51	7 5.70	0.757
Tues.	22	0 8 36.42	9.094	0 55 59.4	+59.12	16 4.76	64.50	6 47.50	0.760
Wed.	23	0 12 14.65	9.092	1 19 37.6	59.05	16 4.47	64.49	6 29.24	0.762
Thur.	24	0 15 52.85	9.091	1 43 13.9	58.97	16 4.19	64.48	6 10.93	0.763
Frid.	25	0 19 31.03	9.090	2 6 48.0	+58.87	16 3.91	64.47	5 52.60	0.764
Sat.	26	0 23 9.19	9.090	2 30 19.5	58.75	16 3.63	64.47	5 34.26	0.764
SUN.	27	0 26 47.37	9.091	2 53 48.0	58.62	16 3.35	64.47	5 15.94	0.763
Mon.	28	0 30 25.59	9.093	3 17 13.1	+58.47	16 3.07	64.47	4 57.65	0.761
Tues.	29	0 34 3.85	9.095	3 40 34.4	58.31	16 2.79	64.48	4 39.40	0.759
Wed.	30	0 37 42.16	9.098	4 3 51.5	58.13	16 2.51	64.49	4 21.20	0.756
Thur.	31	0 41 20.54	9.101	4 27 4.1	57.93	16 2.24	64.50	4 3.08	0.753
Frid.	32	0 44 59.02	9.105	N. 4 50 11.9	+57.72	16 1.96	64.52	3 45.06	0.749

NOTE.—The mean time of semidiameter passing may be found by subtracting 0".18 from the sidereal time.
 The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing;
 north declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Tues.	1	^h 22 ^m 51 ^s 23.82	9.351	S. 7° 17' 28".4	+57.21	^m 12 ^s 23.63	0.505	^h 22 ^m 39 ^s 0.18
Wed.	2	22 55 7.98	9.330	6 54 32.2	57.46	12 11.25	0.526	22 42 56.73
Thur.	3	22 58 51.66	9.310	6 31 30.1	57.69	11 58.38	0.546	22 46 53.28
Frid.	4	23 2 34.87	9.291	6 8 22.7	+57.90	11 45.08	0.565	22 50 49.84
Sat.	5	23 6 17.62	9.272	5 45 10.4	58.10	11 31.23	0.584	22 54 46.39
SUN.	6	23 9 59.93	9.254	5 21 53.6	58.28	11 16.98	0.602	22 58 42.95
Mon.	7	23 13 41.82	9.237	4 58 32.6	+58.44	11 2.32	0.619	23 2 39.50
Tues.	8	23 17 23.32	9.221	4 35 7.8	58.59	10 47.27	0.635	23 6 36.05
Wed.	9	23 21 4.44	9.206	4 11 39.7	58.73	10 31.84	0.650	23 10 32.60
Thur.	10	23 24 45.21	9.192	3 48 8.5	+58.85	10 16.05	0.664	23 14 29.16
Frid.	11	23 28 25.64	9.179	3 24 34.7	58.96	9 59.93	0.677	23 18 25.71
Sat.	12	23 32 5.77	9.167	3 0 58.6	59.05	9 43.50	0.689	23 22 22.27
SUN.	13	23 35 45.62	9.155	2 37 20.6	+59.12	9 26.80	0.701	23 26 18.82
Mon.	14	23 39 25.21	9.145	2 13 41.0	59.18	9 9.84	0.711	23 30 15.37
Tues.	15	23 43 4.56	9.135	1 50 0.1	59.22	8 52.64	0.721	23 34 11.92
Wed.	16	23 46 43.70	9.127	1 26 18.3	+59.25	8 35.22	0.729	23 38 8.48
Thur.	17	23 50 22.65	9.120	1 2 35.9	59.27	8 17.62	0.736	23 42 5.03
Frid.	18	23 54 1.44	9.114	0 38 53.3	59.27	7 59.86	0.742	23 46 1.59
Sat.	19	23 57 40.09	9.108	S. 0 15 10.8	+59.26	7 41.95	0.748	23 49 58.14
SUN.	20	0 1 18.62	9.103	N. 0 8 31.3	59.23	7 23.92	0.753	23 53 54.70
Mon.	21	0 4 57.04	9.099	0 32 12.6	59.19	7 5.80	0.757	23 57 51.24
Tues.	22	0 8 35.39	9.096	0 55 52.7	+59.13	6 47.59	0.760	0 1 47.80
Wed.	23	0 12 13.67	9.094	1 19 31.2	59.06	6 29.32	0.762	0 5 44.35
Thur.	24	0 15 51.92	9.093	1 43 7.8	58.98	6 11.01	0.763	0 9 40.91
Frid.	25	0 19 30.14	9.092	2 6 42.2	+58.88	5 52.68	0.764	0 13 37.46
Sat.	26	0 23 8.35	9.092	2 30 14.0	58.76	5 34.34	0.764	0 17 34.01
SUN.	27	0 26 46.58	9.093	2 53 42.8	58.63	5 16.02	0.763	0 21 30.56
Mon.	28	0 30 24.84	9.095	3 17 8.2	+58.48	4 57.72	0.761	0 25 27.12
Tues.	29	0 34 3.14	9.097	3 40 29.8	58.32	4 39.47	0.759	0 29 23.67
Wed.	30	0 37 41.49	9.100	4 3 47.3	58.14	4 21.26	0.756	0 33 20.23
Thur.	31	0 41 19.92	9.103	4 27 0.2	57.94	4 3.14	0.753	0 37 16.78
Frid.	32	0 44 58.45	9.107	N. 4 50 8.3	+57.73	3 45.11	0.749	0 41 13.34

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing; north declinations, increasing.

Diff. for 1 hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	61	341° 24' 44.7	24° 48.8	150.44	— 0.36	9.9962827	+45.0	^h 1 ^m 20 ^s 46.55
2	62	342 24 54.1	24 58.1	150.36	0.24	9.9963910	45.3	1 16 50.64
3	63	343 25 1.4	25 5.4	150.27	— 0.12	9.9964999	45.5	1 12 54.73
4	64	344 25 6.7	25 10.5	150.18	+ 0.02	9.9966095	+45.8	1 8 58.82
5	65	345 25 9.8	25 13.5	150.08	0.15	9.9967199	46.2	1 5 2.92
6	66	346 25 10.7	25 14.3	149.99	0.28	9.9968311	46.6	1 1 7.02
7	67	347 25 9.4	25 12.9	149.90	+ 0.39	9.9969433	+47.0	0 57 11.11
8	68	348 25 6.0	25 9.4	149.81	0.48	9.9970565	47.4	0 53 15.20
9	69	349 25 0.4	25 3.7	149.72	0.55	9.9971708	47.9	0 49 19.29
10	70	350 24 52.7	24 55.9	149.63	+ 0.59	9.9972862	+48.4	0 45 23.38
11	71	351 24 42.8	24 45.9	149.54	0.59	9.9974029	48.9	0 41 27.47
12	72	352 24 30.8	24 33.8	149.45	0.56	9.9975208	49.4	0 37 31.56
13	73	353 24 16.8	24 19.7	149.37	+ 0.51	9.9976400	+49.9	0 33 35.66
14	74	354 24 0.8	24 3.6	149.29	0.43	9.9977605	50.4	0 29 39.75
15	75	355 23 42.8	23 45.5	149.21	0.33	9.9978822	50.9	0 25 43.84
16	76	356 23 23.0	23 25.6	149.13	+ 0.21	9.9980050	+51.4	0 21 47.93
17	77	357 23 1.4	23 3.9	149.06	+ 0.09	9.9981298	51.8	0 17 52.03
18	78	358 22 38.0	22 40.4	148.98	— 0.04	9.9982535	52.1	0 13 56.13
19	79	359 22 12.8	22 15.1	148.91	— 0.17	9.9983790	+52.4	0 10 0.22
20	80	0 21 45.8	21 48.0	148.83	0.29	9.9985051	52.6	0 6 4.31
21	81	1 21 17.1	21 19.2	148.76	0.39	9.9986317	52.8	{ 0 2 8.40 23 58 12.49 }
22	82	2 20 46.7	20 48.6	148.69	— 0.46	9.9987586	+52.9	23 54 16.58
23	83	3 20 14.5	20 16.2	148.62	0.51	9.9988856	52.9	23 50 20.67
24	84	4 19 40.4	19 42.1	148.55	0.53	9.9990125	52.8	23 46 24.77
25	85	5 19 4.6	19 6.2	148.47	— 0.52	9.9991392	+52.7	23 42 28.86
26	86	6 18 26.9	18 28.4	148.39	0.48	9.9992656	52.6	23 38 32.95
27	87	7 17 47.2	17 48.6	148.30	0.41	9.9993916	52.4	23 34 37.05
28	88	8 17 5.5	17 6.7	148.22	— 0.32	9.9995171	+52.2	23 30 41.14
29	89	9 16 21.7	16 22.8	148.13	0.21	9.9996421	52.0	23 26 45.23
30	90	10 15 35.9	15 36.9	148.04	— 0.08	9.9997666	51.8	23 22 49.32
31	91	11 14 47.9	14 48.8	147.94	+ 0.05	9.9998905	51.5	23 18 53.42
32	92	12 13 57.6	13 58.4	147.85	+ 0.18	0.0000139	+51.3	23 14 57.51
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 0 ^h .0.								
								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI-DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	
							h m	m	
1	16' 35.4	16' 32.6	60' 46.6	−0.70	60' 36.3	−1.00	2 22.9	2.14	2.3
2	16 28.8	16 24.3	60 22.6	1.27	60 6.0	1.49	3 14.4	2.16	3.3
3	16 19.1	16 13.5	59 47.0	1.66	59 26.4	1.77	4 7.1	2.22	4.3
4	16 7.6	16 1.4	59 4.5	−1.86	58 41.9	−1.89	5 1.6	2.30	5.3
5	15 55.2	15 49.1	58 19.2	1.89	57 56.6	1.87	5 58.0	2.36	6.3
6	15 43.0	15 37.2	57 34.4	1.82	57 13.0	1.75	6 55.4	2.37	7.3
7	15 31.6	15 26.4	56 52.5	−1.67	56 33.1	−1.58	7 52.4	2.32	8.3
8	15 21.4	15 16.7	56 14.8	1.48	55 57.7	1.38	8 47.3	2.22	9.3
9	15 12.4	15 8.4	55 41.8	1.28	55 27.1	1.18	9 39.1	2.08	10.3
10	15 4.7	15 1.3	55 13.6	−1.09	55 1.2	−0.99	10 27.4	1.93	11.3
11	14 58.3	14 55.5	54 49.9	0.90	54 39.7	0.81	11 12.3	1.81	12.3
12	14 53.0	14 50.8	54 30.6	0.72	54 22.6	0.62	11 54.6	1.71	13.3
13	14 49.0	14 47.4	54 15.8	−0.53	54 10.0	−0.44	12 35.0	1.66	14.3
14	14 46.1	14 45.2	54 5.4	−0.33	54 2.1	−0.22	13 14.5	1.64	15.3
15	14 44.7	14 44.6	54 0.2	−0.11	53 59.8	+0.02	13 54.1	1.66	16.3
16	14 44.9	14 45.6	54 0.9	+0.16	54 3.6	+0.31	14 34.7	1.73	17.3
17	14 46.9	14 48.7	54 8.2	0.47	54 14.7	0.63	15 17.2	1.82	18.3
18	14 51.0	14 53.8	54 23.2	0.80	54 33.7	0.97	16 2.5	1.95	19.3
19	14 57.3	15 1.4	54 46.5	+1.16	55 1.5	+1.35	16 51.0	2.09	20.3
20	15 6.1	15 11.4	55 18.7	1.54	55 38.2	1.71	17 43.1	2.22	21.3
21	15 17.3	15 23.7	55 59.7	1.88	56 23.3	2.04	18 38.1	2.32	22.3
22	15 30.6	15 37.9	56 48.6	+2.19	57 15.5	+2.30	19 34.9	2.37	23.3
23	15 45.5	15 53.4	57 43.6	2.37	58 12.3	2.41	20 32.0	2.35	24.3
24	16 1.3	16 9.0	58 41.3	2.40	59 9.8	2.34	21 28.0	2.30	25.3
25	16 16.5	16 23.5	59 37.3	+2.22	60 3.0	+2.04	22 22.5	2.23	26.3
26	16 29.8	16 35.2	60 26.1	1.80	60 46.0	1.50	23 15.5	2.18	27.3
27	16 39.6	16 42.8	61 2.1	1.16	61 13.7	+0.77	6		28.3
28	16 44.6	16 45.1	61 20.5	+0.36	61 22.2	−0.07	0 7.7	2.17	29.3
29	16 44.2	16 41.9	61 18.9	−0.49	61 10.7	0.88	1 0.1	2.20	0.9
30	16 38.5	16 33.9	60 57.9	1.24	60 41.0	1.56	1 53.9	2.27	1.9
31	16 28.3	16 22.0	60 20.7	1.81	59 57.6	2.01	2 49.7	2.36	2.9
32	16 15.2	16 8.0	59 32.4	−2.16	59 5.8	−2.26	3 47.7	2.44	3.9

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 1.					THURSDAY 3.				
0	h m s	s	N. ° ' "	"	0	h m s	s	N. ° ' "	"
1	0 56 57.32	2.2999	2 56 11.5	16.868	1	2 45 9.51	2.3044	15 27 6.4	13.767
2	0 59 10.90	2.2994	3 13 4.1	16.863	2	2 47 27.85	2.3079	15 40 49.4	13.664
3	1 1 24.49	2.2986	3 29 55.1	16.857	3	2 49 46.37	2.3101	15 54 26.1	13.559
4	1 3 38.09	2.2978	3 46 44.5	16.808	4	2 52 5.06	2.3129	16 7 56.5	13.453
5	1 5 51.71	2.2973	4 3 32.1	16.778	5	2 54 23.92	2.3158	16 21 20.5	13.346
6	1 8 5.36	2.2976	4 20 17.9	16.747	6	2 56 42.96	2.3188	16 34 38.0	13.237
7	1 10 19.03	2.2981	4 37 1.7	16.713	7	2 59 2.18	2.3218	16 47 48.9	13.127
8	1 12 32.73	2.2987	4 53 43.4	16.677	8	3 1 21.58	2.3248	17 0 53.2	13.016
9	1 14 46.47	2.2994	5 10 22.9	16.639	9	3 3 41.16	2.3277	17 13 50.8	12.903
10	1 17 0.26	2.2999	5 27 0.1	16.600	10	3 6 0.91	2.3307	17 26 41.5	12.788
11	1 19 14.09	2.2999	5 43 34.9	16.559	11	3 8 20.84	2.3337	17 39 25.3	12.673
12	1 21 27.97	2.2917	6 0 7.2	16.516	12	3 10 40.96	2.3368	17 52 2.2	12.557
13	1 23 41.89	2.2925	6 16 36.8	16.471	13	3 13 1.26	2.3398	18 4 32.1	12.438
14	1 25 55.87	2.2936	6 33 3.7	16.425	14	3 15 21.74	2.3429	18 16 54.8	12.318
15	1 28 9.92	2.2947	6 49 27.8	16.377	15	3 17 42.41	2.3460	18 29 10.3	12.198
16	1 30 24.03	2.2958	7 5 49.0	16.327	16	3 20 3.26	2.3491	18 41 18.6	12.077
17	1 32 38.21	2.2969	7 22 7.1	16.276	17	3 22 24.30	2.3522	18 53 19.5	11.954
18	1 34 52.46	2.2982	7 38 22.1	16.222	18	3 24 45.52	2.3552	19 5 13.0	11.830
19	1 37 6.79	2.2995	7 54 33.8	16.167	19	3 27 6.93	2.3583	19 16 59.1	11.705
20	1 39 21.20	2.2408	8 10 42.1	16.110	20	3 29 28.52	2.3614	19 28 37.6	11.578
21	1 41 35.69	2.2422	8 26 47.0	16.052	21	3 31 50.30	2.3645	19 40 8.5	11.450
22	1 43 50.27	2.2437	8 42 48.4	15.992	22	3 34 12.26	2.3675	19 51 31.6	11.321
23	1 46 4.94	2.2453	8 58 46.1	15.931	23	3 36 34.40	2.3706	20 2 47.0	11.192
24	1 48 19.71	2.2470	N. 9 14 40.1	15.867	24	3 38 56.73	2.3737	N.20 13 54.6	11.061
WEDNESDAY 2.					FRIDAY 4.				
0	1 50 34.58	2.2487	N. 9 30 30.2	15.802	0	3 41 19.24	2.3767	N.20 24 54.3	10.936
1	1 52 49.55	2.2504	9 46 16.3	15.735	1	3 43 41.93	2.3797	20 35 46.0	10.795
2	1 55 4.63	2.2521	10 1 58.4	15.667	2	3 46 4.80	2.3827	20 46 29.7	10.661
3	1 57 19.81	2.2540	10 17 36.4	15.597	3	3 48 27.86	2.3857	20 57 5.3	10.525
4	1 59 35.11	2.2560	10 33 10.1	15.525	4	3 50 51.09	2.3887	21 7 32.7	10.389
5	2 1 50.53	2.2579	10 48 39.4	15.452	5	3 53 14.50	2.3916	21 17 52.0	10.252
6	2 4 6.06	2.2599	11 4 4.3	15.377	6	3 55 38.08	2.3945	21 28 3.0	10.113
7	2 6 21.72	2.2620	11 19 24.7	15.301	7	3 58 1.84	2.3974	21 38 5.6	9.974
8	2 8 37.50	2.2641	11 34 40.4	15.223	8	4 0 25.77	2.4003	21 47 59.9	9.834
9	2 10 53.41	2.2662	11 49 51.4	15.143	9	4 2 49.87	2.4031	21 57 45.7	9.692
10	2 13 9.45	2.2685	12 4 57.6	15.062	10	4 5 14.14	2.4059	22 7 23.0	9.550
11	2 15 25.63	2.2708	12 19 58.9	14.979	11	4 7 38.58	2.4087	22 16 51.7	9.407
12	2 17 41.95	2.2732	12 34 55.1	14.894	12	4 10 3.18	2.4114	22 26 11.9	9.264
13	2 19 58.41	2.2755	12 49 46.2	14.809	13	4 12 27.95	2.4141	22 35 23.4	9.118
14	2 22 15.01	2.2779	13 4 32.2	14.722	14	4 14 52.87	2.4167	22 44 26.1	8.972
15	2 24 31.76	2.2804	13 19 12.9	14.633	15	4 17 17.95	2.4193	22 53 20.1	8.826
16	2 26 48.06	2.2829	13 33 48.2	14.542	16	4 19 43.19	2.4219	23 2 5.2	8.679
17	2 29 5.71	2.2855	13 48 18.0	14.451	17	4 22 8.58	2.4244	23 10 41.5	8.531
18	2 31 22.92	2.2881	14 2 42.3	14.358	18	4 24 34.12	2.4268	23 19 8.9	8.382
19	2 33 40.28	2.2907	14 17 0.9	14.263	19	4 26 59.80	2.4292	23 27 27.3	8.232
20	2 35 57.80	2.2933	14 31 13.8	14.167	20	4 29 25.63	2.4316	23 35 36.7	8.082
21	2 38 15.48	2.2960	14 45 20.9	14.069	21	4 31 51.60	2.4339	23 43 37.1	7.931
22	2 40 33.32	2.2988	14 59 22.1	13.970	22	4 34 17.70	2.4361	23 51 28.4	7.779
23	2 42 51.33	2.3016	15 13 17.3	13.869	23	4 36 43.93	2.4382	23 59 10.5	7.626
24	2 45 9.51	2.3044	N.15 27 6.4	13.767	24	4 39 10.29	2.4404	N.24 6 43.5	7.473

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 5.					MONDAY 7.				
0	4 39 10.29	2.4404	N.24° 6' 43.5"	7.473	0	6 37 10.82	2.4400	N.27° 1' 51.3"	0.309
1	4 41 36.78	2.4495	24 14 7.3	7.319	1	6 39 37.15	2.4375	27 1 34.0	0.367
2	4 44 3.39	2.4444	24 21 21.8	7.165	2	6 42 3.32	2.4349	27 1 7.2	0.525
3	4 46 30.11	2.4463	24 28 27.1	7.011	3	6 44 29.33	2.4322	27 0 31.0	0.681
4	4 48 56.95	2.4468	24 35 23.1	6.855	4	6 46 55.18	2.4295	26 59 45.5	0.837
5	4 51 23.90	2.4500	24 42 9.7	6.698	5	6 49 20.87	2.4267	26 58 50.6	0.992
6	4 53 50.95	2.4517	24 48 46.9	6.542	6	6 51 46.39	2.4238	26 57 46.4	1.147
7	4 56 18.10	2.4533	24 55 14.7	6.385	7	6 54 11.73	2.4207	26 56 32.9	1.302
8	4 58 45.35	2.4549	25 1 33.1	6.227	8	6 56 36.88	2.4176	26 55 10.2	1.455
9	5 1 12.69	2.4563	25 7 42.0	6.069	9	6 59 1.84	2.4144	26 53 38.3	1.607
10	5 3 40.11	2.4577	25 13 41.4	5.910	10	7 1 26.61	2.4111	26 51 57.3	1.760
11	5 6 7.61	2.4590	25 19 31.2	5.751	11	7 3 51.17	2.4076	26 50 7.1	1.912
12	5 8 35.19	2.4602	25 25 11.5	5.592	12	7 6 15.52	2.4041	26 48 7.8	2.063
13	5 11 2.84	2.4614	25 30 42.2	5.432	13	7 8 39.66	2.4006	26 45 59.5	2.213
14	5 13 30.56	2.4624	25 36 3.3	5.272	14	7 11 3.59	2.3970	26 43 42.2	2.363
15	5 15 58.33	2.4633	25 41 14.8	5.112	15	7 13 27.30	2.3932	26 41 15.9	2.512
16	5 18 26.16	2.4642	25 46 16.7	4.951	16	7 15 50.78	2.3894	26 38 40.7	2.660
17	5 20 54.04	2.4650	25 51 8.9	4.790	17	7 18 14.03	2.3855	26 35 56.7	2.807
18	5 23 21.96	2.4657	25 55 51.5	4.629	18	7 20 37.04	2.3815	26 33 3.9	2.954
19	5 25 49.92	2.4663	26 0 24.4	4.467	19	7 22 59.81	2.3774	26 30 2.3	3.100
20	5 28 17.92	2.4668	26 4 47.6	4.305	20	7 25 22.33	2.3733	26 26 51.9	3.245
21	5 30 45.94	2.4672	26 9 1.0	4.143	21	7 27 44.61	2.3691	26 23 32.9	3.388
22	5 33 13.98	2.4675	26 13 4.7	3.981	22	7 30 6.63	2.3648	26 20 5.3	3.532
23	5 35 42.04	2.4677	N.26 16 58.7	3.819	23	7 32 28.39	2.3605	N.26 16 29.1	3.675
SUNDAY 6.					TUESDAY 8.				
0	5 38 10.11	2.4679	N.26 20 43.0	3.657	0	7 34 49.89	2.3561	N.26 12 44.3	3.817
1	5 40 38.19	2.4679	26 24 17.5	3.494	1	7 37 11.12	2.3516	26 8 51.1	3.967
2	5 43 6.26	2.4677	26 27 42.3	3.332	2	7 39 32.08	2.3470	26 4 49.5	4.097
3	5 45 34.32	2.4675	26 30 57.4	3.170	3	7 41 52.76	2.3424	26 0 39.5	4.236
4	5 48 2.36	2.4673	26 34 2.7	3.007	4	7 44 13.17	2.3377	25 56 21.2	4.374
5	5 50 30.39	2.4669	26 36 58.2	2.844	5	7 46 33.29	2.3330	25 51 54.6	4.511
6	5 52 58.39	2.4664	26 39 44.0	2.682	6	7 48 53.13	2.3282	25 47 19.9	4.647
7	5 55 26.36	2.4658	26 42 20.1	2.520	7	7 51 12.68	2.3233	25 42 37.0	4.782
8	5 57 54.29	2.4651	26 44 46.4	2.358	8	7 53 31.93	2.3184	25 37 46.0	4.916
9	6 0 22.17	2.4643	26 47 3.0	2.196	9	7 55 50.89	2.3135	25 32 47.0	5.049
10	6 2 50.00	2.4634	26 49 9.9	2.033	10	7 58 9.55	2.3085	25 27 40.1	5.182
11	6 5 17.78	2.4624	26 51 7.0	1.871	11	8 0 27.91	2.3034	25 22 25.2	5.313
12	6 7 45.49	2.4612	26 52 54.4	1.709	12	8 2 45.96	2.2982	25 17 2.5	5.443
13	6 10 13.13	2.4600	26 54 32.1	1.548	13	8 5 3.70	2.2931	25 11 32.0	5.572
14	6 12 40.69	2.4587	26 56 0.1	1.387	14	8 7 21.13	2.2879	25 5 53.8	5.701
15	6 15 8.18	2.4574	26 57 18.5	1.226	15	8 9 38.25	2.2827	25 0 7.9	5.828
16	6 17 35.58	2.4558	26 58 27.2	1.065	16	8 11 55.05	2.2774	24 54 14.4	5.954
17	6 20 2.88	2.4542	26 59 26.3	0.904	17	8 14 11.54	2.2722	24 48 13.4	6.078
18	6 22 30.08	2.4524	27 0 15.7	0.743	18	8 16 27.71	2.2668	24 42 5.0	6.202
19	6 24 57.17	2.4506	27 0 55.5	0.583	19	8 18 43.55	2.2614	24 35 49.1	6.326
20	6 27 24.15	2.4487	27 1 25.7	0.424	20	8 20 59.07	2.2560	24 29 25.8	6.448
21	6 29 51.01	2.4468	27 1 46.4	0.265	21	8 23 14.27	2.2506	24 22 55.3	6.568
22	6 32 17.74	2.4445	27 1 57.5	+ 0.106	22	8 25 29.14	2.2451	24 16 17.6	6.688
23	6 34 44.35	2.4423	27 1 59.1	- 0.052	23	8 27 43.68	2.2395	24 9 32.7	6.808
24	6 37 10.82	2.4400	N.27 1 51.3	0.209	24	8 29 57.88	2.2339	N.24 2 40.6	6.927

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 9.					FRIDAY 11.				
0	^h 8 ^m 29 ^s 57.88	2.2339	N. 24° 2' 40.6"	6.927	0	^h 10 ^m 10 ^s 47.37	1.9739	N. 16° 35' 41.8"	11.976
1	8 32 11.75	2.2284	23 55 41.5	7.043	1	10 12 45.62	1.9684	16 24 23.3	11.346
2	8 34 25.29	2.2229	23 48 35.5	7.158	2	10 14 43.58	1.9636	16 13 1.0	11.403
3	8 36 38.50	2.2173	23 41 22.6	7.272	3	10 16 41.25	1.9588	16 1 34.9	11.466
4	8 38 51.37	2.2117	23 34 2.9	7.385	4	10 18 38.64	1.9543	15 50 5.1	11.527
5	8 41 3.90	2.2061	23 26 36.4	7.497	5	10 20 35.76	1.9496	15 38 31.7	11.587
6	8 43 16.10	2.2005	23 19 3.2	7.609	6	10 22 32.60	1.9450	15 26 54.7	11.646
7	8 45 27.96	2.1948	23 11 23.3	7.719	7	10 24 29.16	1.9405	15 15 14.2	11.704
8	8 47 39.48	2.1892	23 3 36.9	7.827	8	10 26 25.46	1.9361	15 3 30.2	11.761
9	8 49 50.66	2.1835	22 55 44.0	7.935	9	10 28 21.49	1.9317	14 51 42.9	11.817
10	8 52 1.50	2.1778	22 47 44.7	8.043	10	10 30 17.26	1.9273	14 39 52.2	11.873
11	8 54 12.00	2.1722	22 39 39.0	8.148	11	10 32 12.77	1.9229	14 27 58.2	11.926
12	8 56 22.16	2.1665	22 31 27.0	8.252	12	10 34 8.01	1.9186	14 16 1.1	11.979
13	8 58 31.98	2.1608	22 23 8.8	8.355	13	10 36 3.00	1.9144	14 4 0.8	12.031
14	9 0 41.46	2.1552	22 14 44.4	8.457	14	10 37 57.74	1.9102	13 51 57.4	12.082
15	9 2 50.61	2.1496	22 6 13.9	8.558	15	10 39 52.23	1.9061	13 39 50.9	12.133
16	9 4 59.42	2.1439	21 57 37.4	8.658	16	10 41 46.47	1.9020	13 27 41.4	12.182
17	9 7 7.88	2.1382	21 48 54.9	8.757	17	10 43 40.47	1.8980	13 15 29.1	12.229
18	9 9 16.00	2.1325	21 40 6.5	8.855	18	10 45 34.23	1.8940	13 3 13.9	12.276
19	9 11 23.78	2.1269	21 31 12.3	8.952	19	10 47 27.75	1.8900	12 50 55.9	12.323
20	9 13 31.23	2.1213	21 22 12.3	9.047	20	10 49 21.04	1.8861	12 38 35.1	12.369
21	9 15 38.34	2.1157	21 13 6.6	9.142	21	10 51 14.09	1.8824	12 26 11.6	12.413
22	9 17 45.11	2.1101	21 3 55.3	9.235	22	10 53 6.92	1.8787	12 13 45.5	12.457
23	9 19 51.55	2.1045	N. 20 54 38.4	9.327	23	10 54 59.53	1.8750	N. 12 1 16.8	12.499
THURSDAY 10.					SATURDAY 12.				
0	9 21 57.65	2.0989	N. 20 45 16.1	9.418	0	10 56 51.92	1.8713	N. 11 48 45.6	12.541
1	9 24 3.42	2.0934	20 35 48.3	9.506	1	10 58 44.09	1.8677	11 36 11.9	12.582
2	9 26 8.86	2.0878	20 26 15.1	9.596	2	11 0 36.05	1.8642	11 23 35.8	12.622
3	9 28 13.96	2.0822	20 16 36.7	9.683	3	11 2 27.80	1.8607	11 10 57.3	12.661
4	9 30 18.73	2.0767	20 6 53.1	9.770	4	11 4 19.34	1.8573	10 58 16.5	12.699
5	9 32 23.17	2.0713	19 57 4.3	9.857	5	11 6 10.68	1.8539	10 45 33.4	12.737
6	9 34 27.29	2.0659	19 47 10.3	9.942	6	11 8 1.81	1.8505	10 32 48.1	12.773
7	9 36 31.08	2.0605	19 37 11.3	10.024	7	11 9 52.74	1.8473	10 20 0.7	12.808
8	9 38 34.55	2.0551	19 27 7.4	10.106	8	11 11 43.49	1.8442	10 7 11.2	12.843
9	9 40 37.69	2.0497	19 16 58.6	10.187	9	11 13 34.05	1.8411	9 54 19.6	12.877
10	9 42 40.51	2.0444	19 6 44.9	10.268	10	11 15 24.42	1.8380	9 41 26.0	12.909
11	9 44 43.01	2.0391	18 56 26.4	10.346	11	11 17 14.61	1.8350	9 28 30.5	12.941
12	9 46 45.20	2.0338	18 46 3.3	10.424	12	11 19 4.62	1.8321	9 15 33.1	12.972
13	9 48 47.07	2.0285	18 35 35.5	10.502	13	11 20 54.46	1.8292	9 2 33.9	13.002
14	9 50 48.62	2.0232	18 25 3.1	10.577	14	11 22 44.12	1.8263	8 49 32.9	13.031
15	9 52 49.86	2.0181	18 14 26.3	10.651	15	11 24 33.61	1.8235	8 36 30.2	13.059
16	9 54 50.79	2.0130	18 3 45.0	10.725	16	11 26 22.94	1.8208	8 23 25.8	13.087
17	9 56 51.42	2.0079	17 52 59.3	10.798	17	11 28 12.11	1.8181	8 10 19.7	13.114
18	9 58 51.74	2.0028	17 42 9.2	10.870	18	11 30 1.11	1.8154	7 57 12.1	13.139
19	10 0 51.76	1.9978	17 31 14.9	10.940	19	11 31 49.96	1.8130	7 44 3.0	13.164
20	10 2 51.48	1.9927	17 20 16.4	11.009	20	11 33 38.67	1.8106	7 30 52.4	13.189
21	10 4 50.89	1.9877	17 9 13.8	11.077	21	11 35 27.23	1.8081	7 17 40.3	13.212
22	10 6 50.00	1.9829	16 58 7.1	11.145	22	11 37 15.64	1.8057	7 4 26.9	13.234
23	10 8 48.83	1.9781	16 46 56.4	11.211	23	11 39 3.91	1.8034	6 51 12.2	13.256
24	10 10 47.37	1.9732	N. 16 35 41.8	11.276	24	11 40 52.05	1.8012	N. 6 37 56.2	13.277

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 13.					TUESDAY 15.				
0	11 40 52.05	1.8019	N. 6° 37' 56.2"	13.277	0	13 5 54.85	1.7663	S. 4° 8' 26.4"	13.305
1	11 42 40.05	1.7990	6 24 38.9	13.297	1	13 7 40.85	1.7671	4 21 47.8	13.349
2	11 44 27.93	1.7960	6 11 20.5	13.316	2	13 9 26.90	1.7680	4 35 8.2	13.330
3	11 46 15.68	1.7948	5 58 1.0	13.334	3	13 11 13.01	1.7689	4 48 27.6	13.314
4	11 48 3.31	1.7938	5 44 40.4	13.352	4	13 12 59.17	1.7698	5 1 45.9	13.295
5	11 49 50.82	1.7909	5 31 18.8	13.369	5	13 14 45.39	1.7709	5 15 3.0	13.275
6	11 51 38.22	1.7891	5 17 56.1	13.386	6	13 16 31.68	1.7721	5 28 18.9	13.255
7	11 53 25.51	1.7873	5 4 32.5	13.400	7	13 18 18.04	1.7733	5 41 33.6	13.234
8	11 55 12.69	1.7854	4 51 8.1	13.414	8	13 20 4.47	1.7744	5 54 47.0	13.213
9	11 56 59.76	1.7837	4 37 42.8	13.428	9	13 21 50.97	1.7757	6 7 59.2	13.192
10	11 58 46.73	1.7821	4 24 16.7	13.441	10	13 23 37.55	1.7771	6 21 10.0	13.168
11	12 0 33.61	1.7806	4 10 49.9	13.453	11	13 25 24.22	1.7785	6 34 19.4	13.144
12	12 2 20.40	1.7791	3 57 22.4	13.464	12	13 27 10.97	1.7799	6 47 27.3	13.120
13	12 4 7.10	1.7777	3 43 54.2	13.474	13	13 28 57.81	1.7815	7 0 33.8	13.095
14	12 5 53.72	1.7762	3 30 25.5	13.483	14	13 30 44.75	1.7831	7 13 38.7	13.068
15	12 7 40.25	1.7748	3 16 56.2	13.493	15	13 32 31.78	1.7848	7 26 42.0	13.041
16	12 9 26.70	1.7736	3 3 26.3	13.502	16	13 34 18.92	1.7865	7 39 43.7	13.014
17	12 11 13.08	1.7725	2 49 56.0	13.509	17	13 36 6.16	1.7889	7 52 43.7	12.987
18	12 12 59.40	1.7714	2 36 25.3	13.515	18	13 37 53.51	1.7901	8 5 42.1	12.958
19	12 14 45.65	1.7703	2 22 54.2	13.521	19	13 39 40.97	1.7920	8 18 38.7	12.928
20	12 16 31.84	1.7693	2 9 22.8	13.526	20	13 41 28.55	1.7940	8 31 33.5	12.898
21	12 18 17.96	1.7682	1 55 51.1	13.530	21	13 43 16.25	1.7960	8 44 26.5	12.867
22	12 20 4.03	1.7674	1 42 19.2	13.534	22	13 45 4.07	1.7981	8 57 17.6	12.835
23	12 21 50.05	1.7666	N. 1 28 47.1	13.537	23	13 46 52.02	1.8002	S. 9 10 6.7	12.802
MONDAY 14.					WEDNESDAY 16.				
0	12 23 36.02	1.7658	N. 1 15 14.8	13.539	0	13 48 40.10	1.8024	S. 9 22 53.8	12.768
1	12 25 21.95	1.7651	1 1 42.4	13.540	1	13 50 28.31	1.8047	9 35 38.9	12.735
2	12 27 7.84	1.7645	0 48 10.0	13.540	2	13 52 16.66	1.8070	9 48 22.0	12.701
3	12 28 53.69	1.7639	0 34 37.6	13.540	3	13 54 5.15	1.8093	10 1 3.0	12.665
4	12 30 39.51	1.7634	0 21 5.2	13.539	4	13 55 53.78	1.8118	10 13 41.8	12.628
5	12 32 25.30	1.7630	N. 0 7 32.9	13.537	5	13 57 42.57	1.8144	10 26 18.4	12.591
6	12 34 11.07	1.7627	S. 0 5 59.2	13.534	6	13 59 31.51	1.8170	10 38 52.7	12.553
7	12 35 56.82	1.7623	0 19 31.2	13.531	7	14 1 20.61	1.8196	10 51 24.7	12.514
8	12 37 42.55	1.7620	0 33 3.0	13.528	8	14 3 9.86	1.8222	11 3 54.4	12.476
9	12 39 28.26	1.7618	0 46 34.5	13.523	9	14 4 59.27	1.8249	11 16 21.8	12.436
10	12 41 13.96	1.7617	1 0 5.7	13.518	10	14 6 48.85	1.8277	11 28 46.7	12.394
11	12 42 59.66	1.7616	1 13 36.6	13.512	11	14 8 38.60	1.8306	11 41 9.1	12.352
12	12 44 45.35	1.7615	1 27 7.1	13.504	12	14 10 28.52	1.8335	11 53 29.0	12.310
13	12 46 31.04	1.7616	1 40 37.1	13.496	13	14 12 18.62	1.8365	12 5 46.3	12.267
14	12 48 16.74	1.7617	1 54 6.6	13.488	14	14 14 8.90	1.8395	12 18 1.0	12.222
15	12 50 2.45	1.7619	2 7 35.7	13.480	15	14 15 59.36	1.8426	12 30 13.0	12.177
16	12 51 48.17	1.7622	2 21 4.2	13.470	16	14 17 50.01	1.8457	12 42 22.3	12.132
17	12 53 33.91	1.7625	2 34 32.1	13.459	17	14 19 40.85	1.8489	12 54 26.9	12.087
18	12 55 19.67	1.7628	2 47 59.3	13.448	18	14 21 31.88	1.8522	13 6 32.7	12.040
19	12 57 5.45	1.7632	3 1 25.8	13.436	19	14 23 23.11	1.8555	13 18 33.7	11.992
20	12 58 51.26	1.7637	3 14 51.6	13.423	20	14 25 14.54	1.8588	13 30 31.7	11.943
21	13 0 37.10	1.7643	3 28 16.6	13.409	21	14 27 6.17	1.8622	13 42 26.7	11.892
22	13 2 22.98	1.7650	3 41 40.7	13.395	22	14 28 58.01	1.8657	13 54 18.7	11.842
23	13 4 8.90	1.7656	3 55 4.0	13.381	23	14 30 50.06	1.8693	14 6 7.7	11.791
24	13 5 54.85	1.7663	S. 4 8 26.4	13.365	24	14 32 42.33	1.8729	S. 14 17 53.6	11.739

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 17.					SATURDAY 19.				
0	14 32 42.33	1.8729	S. 14° 17' 53.6"	11.739	0	16 7 38.72	2.0081	S. 22° 25' 1.7"	8.208
1	14 34 34.81	1.8765	14 29 36.3	11.686	1	16 9 44.77	2.1036	22 33 11.3	8.113
2	14 36 27.51	1.8802	14 41 15.9	11.632	2	16 11 51.15	2.1090	22 41 15.1	8.013
3	14 38 20.44	1.8840	14 52 52.2	11.577	3	16 13 57.85	2.1145	22 49 12.9	7.914
4	14 40 13.50	1.8878	15 4 25.2	11.522	4	16 16 4.89	2.1201	22 57 4.8	7.815
5	14 42 6.97	1.8916	15 15 54.9	11.466	5	16 18 12.26	2.1256	23 4 50.7	7.714
6	14 44 0.58	1.8954	15 27 21.2	11.409	6	16 20 19.96	2.1311	23 12 30.5	7.613
7	14 45 54.42	1.8994	15 38 44.0	11.352	7	16 22 27.99	2.1366	23 20 4.2	7.510
8	14 47 48.51	1.9035	15 50 2.4	11.293	8	16 24 36.35	2.1422	23 27 31.7	7.406
9	14 49 42.84	1.9076	16 1 19.2	11.233	9	16 26 45.05	2.1477	23 34 52.9	7.301
10	14 51 37.42	1.9117	16 12 31.4	11.173	10	16 28 54.08	2.1532	23 42 7.8	7.196
11	14 53 32.24	1.9158	16 23 40.0	11.111	11	16 31 3.44	2.1588	23 49 16.4	7.089
12	14 55 27.31	1.9200	16 34 44.8	11.049	12	16 33 13.14	2.1644	23 56 18.5	6.981
13	14 57 22.64	1.9242	16 45 45.9	10.987	13	16 35 23.17	2.1699	24 3 14.1	6.872
14	14 59 18.22	1.9285	16 56 43.2	10.923	14	16 37 33.53	2.1754	24 10 3.2	6.762
15	15 1 14.06	1.9329	17 7 36.7	10.858	15	16 39 44.22	2.1809	24 16 45.6	6.651
16	15 3 10.17	1.9373	17 18 26.2	10.793	16	16 41 55.24	2.1864	24 23 21.3	6.539
17	15 5 6.54	1.9417	17 29 11.8	10.727	17	16 44 6.59	2.1919	24 29 50.3	6.427
18	15 7 3.18	1.9462	17 39 53.4	10.659	18	16 46 18.27	2.1974	24 36 12.6	6.314
19	15 9 0.09	1.9507	17 50 30.9	10.591	19	16 48 30.28	2.2029	24 42 28.0	6.198
20	15 10 57.27	1.9553	18 1 4.3	10.522	20	16 50 42.02	2.2084	24 48 36.4	6.082
21	15 12 54.73	1.9600	18 11 33.5	10.452	21	16 52 55.29	2.2139	24 54 37.8	5.965
22	15 14 52.47	1.9647	18 21 58.5	10.381	22	16 55 8.29	2.2193	25 0 32.2	5.847
23	15 16 50.49	1.9694	S. 18° 32' 19.2"	10.309	23	16 57 21.61	2.2248	S. 25° 6' 19.5"	5.728
FRIDAY 18.					SUNDAY 20.				
0	15 18 48.79	1.9741	S. 18° 42' 35.6"	10.237	0	16 59 35.26	2.2303	S. 25° 11' 59.6"	5.608
1	15 20 47.38	1.9789	18 52 47.6	10.163	1	17 1 49.23	2.2355	25 17 32.5	5.487
2	15 22 46.26	1.9837	19 2 55.2	10.088	2	17 4 3.52	2.2408	25 22 58.1	5.366
3	15 24 45.42	1.9885	19 12 58.2	10.012	3	17 6 18.13	2.2462	25 28 16.4	5.243
4	15 26 44.88	1.9935	19 22 56.6	9.936	4	17 8 33.06	2.2515	25 33 27.3	5.119
5	15 28 44.64	1.9984	19 32 50.5	9.859	5	17 10 48.31	2.2567	25 38 30.7	4.994
6	15 30 44.69	2.0033	19 42 39.7	9.781	6	17 13 3.87	2.2620	25 43 26.6	4.868
7	15 32 45.04	2.0084	19 52 24.2	9.702	7	17 15 19.75	2.2672	25 48 14.9	4.742
8	15 34 45.70	2.0135	20 2 3.9	9.621	8	17 17 35.94	2.2723	25 52 55.6	4.614
9	15 36 46.66	2.0186	20 11 38.9	9.539	9	17 19 52.43	2.2774	25 57 28.6	4.485
10	15 38 47.93	2.0237	20 21 8.6	9.457	10	17 22 9.23	2.2825	26 1 53.8	4.356
11	15 40 49.50	2.0288	20 30 33.6	9.375	11	17 24 26.33	2.2876	26 6 11.3	4.226
12	15 42 51.38	2.0339	20 39 53.6	9.291	12	17 26 43.74	2.2927	26 10 20.9	4.094
13	15 44 53.57	2.0391	20 49 8.5	9.206	13	17 29 1.45	2.2976	26 14 22.6	3.962
14	15 46 56.08	2.0444	20 58 18.3	9.120	14	17 31 19.45	2.3024	26 18 16.3	3.828
15	15 48 58.90	2.0497	21 7 22.9	9.033	15	17 33 37.74	2.3073	26 22 1.9	3.693
16	15 51 2.04	2.0550	21 16 22.3	8.946	16	17 35 56.32	2.3121	26 25 39.5	3.558
17	15 53 5.50	2.0602	21 25 16.4	8.857	17	17 38 15.19	2.3168	26 29 8.9	3.422
18	15 55 9.27	2.0655	21 34 5.1	8.767	18	17 40 34.34	2.3215	26 32 30.1	3.284
19	15 57 13.36	2.0709	21 42 48.4	8.677	19	17 42 53.77	2.3262	26 35 43.0	3.146
20	15 59 17.78	2.0764	21 51 26.3	8.585	20	17 45 13.48	2.3308	26 38 47.7	3.008
21	16 1 22.53	2.0818	21 59 58.6	8.492	21	17 47 33.47	2.3353	26 41 44.0	2.868
22	16 3 27.60	2.0872	22 8 25.3	8.398	22	17 49 53.72	2.3398	26 44 31.9	2.728
23	16 5 33.00	2.0927	22 16 46.4	8.303	23	17 52 14.24	2.3443	26 47 11.4	2.587
24	16 7 38.72	2.0981	S. 22° 25' 1.7"	8.208	24	17 54 35.02	2.3488	S. 26° 49' 42.3"	2.444

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 21.					WEDNESDAY 23.				
0	17 54 35.02	2.3483	S. 26° 49' 42.3"	2.444	0	19 50 45.60	2.4568	S. 25° 50' 51.8"	5.057
1	17 56 56.06	2.3507	26 52 4.7	2.301	1	19 53 13.01	2.4568	25 45 43.5	5.290
2	17 59 17.35	2.3570	26 54 18.5	2.157	2	19 55 40.42	2.4567	25 40 25.4	5.382
3	18 1 38.90	2.3612	26 56 23.6	2.012	3	19 58 7.81	2.4564	25 34 57.6	5.544
4	18 4 0.69	2.3652	26 58 20.0	1.867	4	20 0 35.19	2.4561	25 29 20.1	5.706
5	18 6 22.72	2.3692	27 0 7.6	1.791	5	20 3 2.55	2.4557	25 23 32.9	5.867
6	18 8 44.99	2.3731	27 1 46.5	1.574	6	20 5 29.88	2.4552	25 17 36.0	6.099
7	18 11 7.49	2.3769	27 3 16.5	1.496	7	20 7 57.17	2.4546	25 11 29.4	6.190
8	18 13 30.22	2.3807	27 4 37.6	1.377	8	20 10 24.43	2.4540	25 5 13.2	6.350
9	18 15 53.17	2.3843	27 5 49.8	1.198	9	20 12 51.65	2.4532	24 58 47.4	6.511
10	18 18 16.34	2.3879	27 6 53.0	0.978	10	20 15 18.82	2.4524	24 52 11.9	6.672
11	18 20 39.72	2.3914	27 7 47.2	0.698	11	20 17 45.94	2.4515	24 45 26.8	6.831
12	18 23 3.31	2.3948	27 8 32.4	0.677	12	20 20 13.00	2.4505	24 38 32.2	6.990
13	18 25 27.10	2.3982	27 9 8.5	0.525	13	20 22 40.00	2.4494	24 31 28.0	7.149
14	18 27 51.10	2.4016	27 9 35.4	0.379	14	20 25 6.93	2.4483	24 24 14.3	7.308
15	18 30 15.29	2.4047	27 9 53.1	0.218	15	20 27 33.79	2.4471	24 16 51.1	7.466
16	18 32 39.67	2.4078	27 10 1.6	- 0.065	16	20 30 0.58	2.4457	24 9 18.4	7.624
17	18 35 4.23	2.4108	27 10 0.9	+ 0.089	17	20 32 27.28	2.4443	24 1 36.3	7.781
18	18 37 28.96	2.4137	27 9 50.9	0.944	18	20 34 53.90	2.4429	23 53 44.7	7.937
19	18 39 53.87	2.4166	27 9 31.6	0.400	19	20 37 20.43	2.4414	23 45 43.8	8.093
20	18 42 18.95	2.4193	27 9 2.9	0.556	20	20 39 46.87	2.4399	23 37 33.5	8.249
21	18 44 44.18	2.4219	27 8 24.9	0.719	21	20 42 13.22	2.4383	23 29 13.9	8.404
22	18 47 9.57	2.4245	27 7 37.5	0.869	22	20 44 39.47	2.4366	23 20 45.0	8.558
23	18 49 35.12	2.4270	S. 27° 6' 40.6"	1.096	23	20 47 5.61	2.4348	S. 23° 12' 6.9"	8.719
TUESDAY 22.					THURSDAY 24.				
0	18 52 0.81	2.4293	S. 27° 5' 34.3"	1.184	0	20 49 31.64	2.4399	S. 23° 3' 19.6"	8.864
1	18 54 26.64	2.4316	27 4 18.5	1.343	1	20 51 57.56	2.4311	22 54 23.2	9.016
2	18 56 52.60	2.4337	27 2 53.1	1.502	2	20 54 23.37	2.4299	22 45 17.7	9.168
3	18 59 18.69	2.4358	27 1 18.2	1.662	3	20 56 49.06	2.4273	22 36 3.0	9.390
4	19 1 44.90	2.4378	26 59 33.7	1.821	4	20 59 14.63	2.4251	22 26 39.3	9.469
5	19 4 11.23	2.4396	26 57 39.7	1.980	5	21 1 40.07	2.4230	22 17 6.7	9.618
6	19 6 37.66	2.4414	26 55 36.1	2.141	6	21 4 5.39	2.4209	22 7 25.2	9.766
7	19 9 4.20	2.4432	26 53 22.8	2.302	7	21 6 30.58	2.4187	21 57 34.8	9.913
8	19 11 30.84	2.4447	26 50 59.9	2.463	8	21 8 55.64	2.4165	21 47 35.6	10.060
9	19 13 57.57	2.4462	26 48 27.3	2.624	9	21 11 20.56	2.4142	21 37 27.6	10.206
10	19 16 24.38	2.4476	26 45 45.0	2.786	10	21 13 45.34	2.4119	21 27 10.9	10.351
11	19 18 51.28	2.4489	26 42 53.0	2.947	11	21 16 9.99	2.4096	21 16 45.5	10.494
12	19 21 18.25	2.4501	26 39 51.4	3.109	12	21 18 34.50	2.4072	21 6 11.6	10.637
13	19 23 45.29	2.4512	26 36 40.0	3.271	13	21 20 58.86	2.4047	20 55 29.1	10.779
14	19 26 12.39	2.4522	26 33 18.9	3.433	14	21 23 23.07	2.4023	20 44 38.1	10.920
15	19 28 39.55	2.4531	26 29 48.1	3.595	15	21 25 47.14	2.3999	20 33 38.7	11.060
16	19 31 6.76	2.4539	26 26 7.5	3.757	16	21 28 11.06	2.3974	20 22 30.9	11.199
17	19 33 34.02	2.4547	26 22 17.2	3.920	17	21 30 34.83	2.3948	20 11 14.8	11.337
18	19 36 1.32	2.4553	26 18 17.1	4.082	18	21 32 58.44	2.3923	19 59 50.5	11.473
19	19 38 28.65	2.4558	26 14 7.3	4.245	19	21 35 21.90	2.3898	19 48 18.0	11.609
20	19 40 56.01	2.4562	26 9 47.7	4.408	20	21 37 45.21	2.3872	19 36 37.4	11.744
21	19 43 23.39	2.4564	26 5 18.3	4.571	21	21 40 8.36	2.3845	19 24 48.7	11.877
22	19 45 50.78	2.4566	26 0 39.2	4.733	22	21 42 31.35	2.3818	19 12 52.1	12.009
23	19 48 18.19	2.4568	25 55 50.4	4.895	23	21 44 54.18	2.3792	19 0 47.6	12.140
24	19 50 45.60	2.4568	S. 25° 50' 51.8"	5.057	24	21 47 16.86	2.3766	S. 18° 48' 35.3"	12.269

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 25.					SUNDAY 27.				
0	21 47 16.86	2.3766	S. 18° 48' 35.3"	12.969	0	23 38 31.87	2.9709	S. 6° 57' 9.9"	16.751
1	21 49 39.38	2.3739	18 36 15.3	12.396	1	23 40 48.09	2.9697	6 40 23.3	16.802
2	21 52 1.73	2.3713	18 23 47.5	12.587	2	23 43 4.24	2.9687	6 23 33.7	16.852
3	21 54 23.93	2.3687	18 11 12.1	12.653	3	23 45 20.33	2.9677	6 6 41.1	16.899
4	21 56 45.97	2.3660	17 58 29.2	12.777	4	23 47 36.36	2.9667	5 49 45.8	16.944
5	21 59 7.85	2.3633	17 45 38.9	12.900	5	23 49 52.33	2.9657	5 32 47.8	16.987
6	22 1 29.56	2.3605	17 32 41.2	13.022	6	23 52 8.25	2.9649	5 15 47.3	17.029
7	22 3 51.11	2.3579	17 19 36.2	13.143	7	23 54 24.12	2.9641	4 58 44.3	17.068
8	22 6 12.51	2.3553	17 6 24.0	13.262	8	23 56 39.94	2.9633	4 41 39.1	17.105
9	22 8 33.75	2.3526	16 53 4.7	13.381	9	23 58 55.72	2.9627	4 24 31.7	17.141
10	22 10 54.82	2.3499	16 39 38.3	13.498	10	0 1 11.47	2.9621	4 7 22.2	17.174
11	22 13 15.74	2.3473	16 26 4.9	13.613	11	0 3 27.18	2.9616	3 50 10.8	17.206
12	22 15 36.50	2.3447	16 12 24.7	13.727	12	0 5 42.86	2.9612	3 32 57.5	17.236
13	22 17 57.10	2.3421	15 58 37.7	13.839	13	0 7 58.52	2.9608	3 15 42.5	17.263
14	22 20 17.55	2.3395	15 44 44.0	13.951	14	0 10 14.16	2.9604	2 58 25.9	17.288
15	22 22 37.84	2.3368	15 30 43.6	14.061	15	0 12 29.77	2.9601	2 41 7.9	17.312
16	22 24 57.97	2.3342	15 16 36.7	14.168	16	0 14 45.37	2.9600	2 23 48.5	17.333
17	22 27 17.95	2.3317	15 2 23.4	14.274	17	0 17 0.97	2.9599	2 6 27.9	17.353
18	22 29 37.78	2.3292	14 48 3.8	14.379	18	0 19 16.56	2.9598	1 49 6.1	17.371
19	22 31 57.46	2.3267	14 33 37.9	14.483	19	0 21 32.15	2.9599	1 31 43.4	17.386
20	22 34 16.99	2.3242	14 19 5.8	14.585	20	0 23 47.75	2.9600	1 14 19.8	17.399
21	22 36 36.37	2.3217	14 4 27.7	14.685	21	0 26 3.35	2.9601	0 56 55.5	17.411
22	22 38 55.60	2.3193	13 49 43.6	14.784	22	0 28 18.96	2.9603	0 39 30.5	17.420
23	22 41 14.69	2.3170	S. 13 34 53.6	14.881	23	0 30 34.59	2.9606	S. 0 22 5.1	17.427
SATURDAY 26.					MONDAY 28.				
0	22 43 33.64	2.3146	S. 13 19 57.9	14.976	0	0 32 50.24	2.9610	S. 0 4 39.3	17.432
1	22 45 52.44	2.3123	13 4 56.5	15.071	1	0 35 5.91	2.9614	N. 0 12 46.7	17.435
2	22 48 11.11	2.3100	12 49 49.4	15.163	2	0 37 21.61	2.9620	0 30 12.9	17.437
3	22 50 29.64	2.3077	12 34 36.9	15.253	3	0 39 37.35	2.9626	0 47 39.1	17.436
4	22 52 48.03	2.3055	12 19 19.0	15.342	4	0 41 53.12	2.9632	1 5 5.2	17.432
5	22 55 6.30	2.3034	12 3 55.8	15.430	5	0 44 8.93	2.9639	1 22 31.0	17.427
6	22 57 24.44	2.3013	11 48 27.4	15.516	6	0 46 24.79	2.9647	1 39 56.4	17.419
7	22 59 42.45	2.2992	11 32 53.9	15.600	7	0 48 40.69	2.9655	1 57 21.3	17.410
8	23 2 0.34	2.2971	11 17 15.4	15.682	8	0 50 56.65	2.9665	2 14 45.6	17.399
9	23 4 18.10	2.2950	11 1 32.1	15.769	9	0 53 12.67	2.9675	2 32 9.2	17.386
10	23 6 35.74	2.2931	10 45 44.0	15.841	10	0 55 28.75	2.9686	2 49 31.9	17.370
11	23 8 53.27	2.2912	10 29 51.2	15.917	11	0 57 44.90	2.9697	3 6 53.6	17.353
12	23 11 10.68	2.2893	10 13 53.9	15.992	12	1 0 1.12	2.9709	3 24 14.3	17.334
13	23 13 27.98	2.2874	9 57 52.1	16.066	13	1 2 17.41	2.9722	3 41 33.7	17.312
14	23 15 45.17	2.2857	9 41 46.0	16.137	14	1 4 33.78	2.9735	3 58 51.7	17.288
15	23 18 2.26	2.2840	9 25 35.6	16.207	15	1 6 50.23	2.9749	4 16 8.2	17.262
16	23 20 19.25	2.2823	9 9 21.1	16.275	16	1 9 6.77	2.9764	4 33 23.1	17.234
17	23 22 36.14	2.2807	8 53 2.6	16.341	17	1 11 23.40	2.9779	4 50 36.3	17.205
18	23 24 52.93	2.2791	8 36 40.2	16.405	18	1 13 40.12	2.9795	5 7 47.7	17.173
19	23 27 9.63	2.2776	8 20 14.0	16.467	19	1 15 56.94	2.9812	5 24 57.1	17.139
20	23 29 26.24	2.2762	8 3 44.1	16.528	20	1 18 13.87	2.9830	5 42 4.4	17.102
21	23 31 42.77	2.2748	7 47 10.6	16.587	21	1 20 30.90	2.9848	5 59 9.4	17.064
22	23 33 59.21	2.2734	7 30 33.7	16.643	22	1 22 48.04	2.9866	6 16 12.1	17.024
23	23 36 15.58	2.2721	7 13 53.4	16.698	23	1 25 5.29	2.9885	6 33 12.3	16.982
24	23 38 31.87	2.2709	S. 6 57 9.9	16.751	24	1 27 22.66	2.9905	N. 6 50 9.9	16.938

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 29.					THURSDAY 31.				
0	1 ^h 27 ^m 22.66	2.2905	N. 6° 50' 9.9	16.938	0	3 ^h 20 ^m 33.24	2.4372	N. 18° 54' 58.5	12.559
1	1 29 40.15	2.2926	7 7 4.8	16.892	1	3 22 59.58	2.4407	19 7 28.1	12.496
2	1 31 57.77	2.2947	7 23 56.9	16.843	2	3 25 26.13	2.4442	19 19 49.6	12.391
3	1 34 15.52	2.2969	7 40 46.0	16.792	3	3 27 52.88	2.4476	19 32 3.0	12.155
4	1 36 33.40	2.2992	7 57 32.0	16.740	4	3 30 19.84	2.4510	19 44 8.2	12.017
5	1 38 51.42	2.3014	8 14 14.8	16.686	5	3 32 47.00	2.4543	19 56 5.1	11.878
6	1 41 9.57	2.3037	8 30 54.3	16.629	6	3 35 14.36	2.4577	20 7 53.6	11.738
7	1 43 27.87	2.3062	8 47 30.3	16.571	7	3 37 41.92	2.4610	20 19 33.7	11.597
8	1 45 46.32	2.3087	9 4 2.8	16.511	8	3 40 9.68	2.4643	20 31 5.2	11.453
9	1 48 4.91	2.3112	9 20 31.6	16.448	9	3 42 37.64	2.4676	20 42 28.1	11.309
10	1 50 23.66	2.3137	9 36 56.6	16.383	10	3 45 5.79	2.4708	20 53 42.3	11.164
11	1 52 42.56	2.3163	9 53 17.6	16.317	11	3 47 34.14	2.4741	21 4 47.8	11.017
12	1 55 1.62	2.3190	10 9 34.6	16.248	12	3 50 2.68	2.4773	21 15 44.4	10.869
13	1 57 20.84	2.3218	10 25 47.4	16.178	13	3 52 31.41	2.4803	21 26 32.1	10.730
14	1 59 40.23	2.3246	10 41 56.0	16.106	14	3 55 0.32	2.4833	21 37 10.8	10.570
15	2 1 59.79	2.3274	10 58 0.2	16.032	15	3 57 29.41	2.4863	21 47 40.5	10.419
16	2 4 19.52	2.3302	11 13 59.8	15.955	16	3 59 58.68	2.4893	21 58 1.1	10.266
17	2 6 39.42	2.3332	11 29 54.8	15.877	17	4 2 28.12	2.4922	22 8 12.4	10.111
18	2 8 59.50	2.3362	11 45 45.1	15.797	18	4 4 57.74	2.4951	22 18 14.4	9.956
19	2 11 19.76	2.3392	12 1 30.5	15.715	19	4 7 27.53	2.4978	22 28 7.1	9.801
20	2 13 40.20	2.3422	12 17 10.9	15.631	20	4 9 57.48	2.5005	22 37 50.5	9.645
21	2 16 0.82	2.3453	12 32 46.2	15.545	21	4 12 27.59	2.5039	22 47 24.5	9.487
22	2 18 21.63	2.3484	12 48 16.3	15.457	22	4 14 57.86	2.5068	22 56 49.0	9.328
23	2 20 42.63	2.3515	N. 13° 3' 41.1	15.368	23	4 17 28.28	2.5093	N. 23° 6' 3.9	9.168
WEDNESDAY 30.					FRIDAY, APRIL 1.				
0	2 23 3.81	2.3547	N. 13° 19' 0.5	15.277	0	4 19 58.86	2.5108	N. 23° 15' 9.1	9.007
1	2 25 25.19	2.3579	13 34 14.3	15.183	PHASES OF THE MOON.				
2	2 27 46.76	2.3612	13 49 22.5	15.088					
3	2 30 8.53	2.3645	14 4 24.9	14.991					
4	2 32 30.50	2.3678	14 19 21.4	14.892					
5	2 34 52.67	2.3712	14 34 12.0	14.792	☾ First Quarter . March 5 7 14.3 ○ Full Moon 13 0 55.4 ☾ Last Quarter 21 5 16.3 ● New Moon 28 1 17.8				
6	2 37 15.04	2.3746	14 48 56.5	14.690					
7	2 39 37.62	2.3780	15 3 34.8	14.586					
8	2 42 0.40	2.3813	15 18 6.8	14.479					
9	2 44 23.38	2.3847	15 32 32.3	14.371	☾ Apogee . . . March 15 9.7 ☾ Perigee 28 10.0				
10	2 46 46.57	2.3882	15 46 51.3	14.262					
11	2 49 9.97	2.3917	16 1 3.8	14.151					
12	2 51 33.57	2.3951	16 15 9.5	14.038					
13	2 53 57.38	2.3986	16 29 8.4	13.924					
14	2 56 21.41	2.4021	16 43 0.4	13.808					
15	2 58 45.64	2.4056	16 56 45.4	13.691					
16	3 1 10.08	2.4092	17 10 23.3	13.571					
17	3 3 34.74	2.4127	17 23 53.9	13.449					
18	3 5 59.61	2.4162	17 37 17.2	13.327					
19	3 8 24.69	2.4197	17 50 33.1	13.203					
20	3 10 49.98	2.4232	18 3 41.5	13.078					
21	3 13 15.48	2.4267	18 16 42.4	12.951					
22	3 15 41.19	2.4302	18 29 35.6	12.822					
23	3 18 7.11	2.4337	18 42 21.0	12.691					
24	3 20 33.24	2.4372	N. 18° 54' 58.5	12.559					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SUN W.	32° 57' 6"	9409	34° 40' 28"	9419	36° 23' 46"	9416	38° 6' 58"	9421
	JUPITER W.	18 3 24	9184	19 52 16	9181	21 41 12	9189	23 30 7	9184
	Aldebaran E.	53 56 3	9111	52 5 20	9120	50 14 51	9130	48 24 38	9141
	Pollux E.	97 45 52	9061	95 53 53	9068	94 2 4	9075	92 10 26	9069
2	SUN W.	46 40 45	9460	48 22 55	9460	50 4 52	9480	51 46 34	9491
	JUPITER W.	32 33 8	9215	34 21 13	9225	36 9 4	9234	37 56 41	9244
	Aldebaran E.	39 18 13	9219	37 30 4	9231	35 42 23	9251	33 55 11	9279
	Pollux E.	82 55 25	9198	81 5 8	9139	79 15 8	9149	77 25 24	9161
3	SUN W.	60 11 0	9552	61 51 1	9566	63 30 43	9580	65 10 6	9593
	VENUS W.	21 30 6	9292	23 8 31	9234	24 46 40	9246	26 24 33	9257
	Pollux E.	08 21 14	9223	66 33 20	9236	64 45 46	9249	62 58 32	9263
	Regulus E.	104 44 32	9234	102 56 55	9247	101 9 37	9260	99 22 38	9273
4	SUN W.	73 22 9	9666	74 59 34	9689	76 36 38	9697	78 13 22	9712
	VENUS W.	34 29 39	9725	36 5 45	9741	37 41 31	9755	39 16 58	9769
	α Arietis W.	23 24 1	9668	24 57 1	9617	26 31 7	9777	28 6 5	9747
	Pollux E.	54 7 29	9334	52 22 19	9348	50 37 30	9363	48 53 2	9378
	Regulus E.	90 32 45	9343	88 47 48	9357	87 3 11	9371	85 18 55	9386
5	SUN W.	86 12 0	9788	87 46 43	9803	89 21 7	9818	90 55 11	9834
	VENUS W.	47 9 21	9845	48 42 51	9860	50 16 1	9874	51 48 53	9890
	α Arietis W.	36 8 19	9678	37 45 29	9675	39 22 43	9674	40 59 58	9674
	Pollux E.	40 15 58	9451	38 33 36	9466	36 51 35	9481	35 9 55	9495
	Regulus E.	76 42 47	9458	75 0 35	9479	73 18 43	9487	71 37 11	9502
	SATURN E.	105 56 45	9421	104 13 40	9435	102 30 55	9449	100 48 30	9463
6	SUN W.	98 40 41	9907	100 12 51	9922	101 44 42	9936	103 16 15	9950
	VENUS W.	59 28 26	9963	60 59 25	9977	62 30 6	9991	64 0 30	3005
	α Arietis W.	49 5 27	9695	50 42 13	9702	52 18 50	9709	53 55 18	9717
	Regulus E.	63 14 31	9572	61 34 57	9585	59 55 42	9599	58 16 46	9612
	SATURN E.	92 21 16	9530	90 40 45	9544	89 0 33	9557	87 20 39	9569
7	SUN W.	110 49 42	3018	112 19 33	3030	113 49 8	3043	115 18 27	3056
	VENUS W.	71 28 13	3072	72 56 57	3085	74 25 25	3097	75 53 38	3110
	α Arietis W.	61 54 55	2759	63 30 17	2768	65 5 27	2777	66 40 25	2785
	Aldebaran W.	31 23 30	2777	32 58 28	2778	34 33 25	2780	36 8 19	2783
	Regulus E.	50 6 38	2679	48 29 30	2692	46 52 40	2705	45 16 7	2718
	SATURN E.	79 5 26	2631	77 27 13	2643	75 49 16	2655	74 11 35	2666
8	SUN W.	122 41 13	3116	124 9 3	3128	125 36 39	3139	127 4 1	3151
	α Arietis W.	74 32 19	2831	76 6 7	2840	77 39 43	2849	79 13 7	2858
	Aldebaran W.	44 1 16	2812	45 35 28	2819	47 9 31	2825	48 43 26	2832
	Regulus E.	37 17 38	2783	35 42 48	2796	34 8 15	2809	32 33 59	2824
	SATURN E.	66 6 52	2719	64 30 38	2730	62 54 38	2740	61 18 51	2749
	Spica E.	91 16 53	2756	89 41 28	2766	88 6 16	2776	86 31 17	2786
9	α Arietis W.	86 57 19	2901	88 29 36	2910	90 1 42	2918	91 33 38	2927
	Aldebaran W.	56 30 45	2867	58 3 46	2875	59 36 37	2889	61 9 19	2899
	SATURN E.	53 23 2	2795	51 48 28	2804	50 14 5	2813	48 39 54	2821
	Spica E.	78 39 31	2833	77 5 46	2842	75 32 12	2851	73 58 50	2859

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN	W.	39° 50' 3"	2427	41° 32' 59"	2433	43° 15' 46"	2442	44° 58' 21"	2450
	JUPITER	W.	25 18 59	2188	27 7 45	2193	28 56 23	2200	30 44 51	2207
	Aldebaran	E.	46 34 41	2153	44 45 3	2166	42 55 44	2180	41 6 47	2196
	Pollux	E.	90 18 59	2090	88 27 45	2099	86 36 44	2108	84 45 57	2118
2	SUN	W.	53 28 0	2502	55 9 10	2514	56 50 4	2526	58 30 41	2539
	JUPITER	W.	39 44 3	2255	41 31 9	2266	43 17 58	2278	45 4 30	2291
	Aldebaran	E.	32 8 31	2226	30 22 25	2234	28 37 0	2253	26 52 18	2267
	Pollux	E.	75 35 58	2172	73 46 49	2185	71 57 59	2197	70 9 27	2210
3	SUN	W.	66 49 10	2608	68 27 54	2622	70 6 19	2637	71 44 24	2652
	VENUS	W.	28 2 10	2671	29 39 29	2684	31 16 31	2698	32 53 14	2711
	Pollux	E.	61 11 38	2277	59 25 5	2291	57 38 52	2305	55 53 0	2320
	Regulus	E.	97 35 59	2287	95 49 40	2300	94 3 41	2315	92 18 3	2328
4	SUN	W.	79 49 46	2727	81 25 50	2743	83 1 33	2757	84 36 57	2772
	VENUS	W.	40 52 6	2785	42 26 54	2799	44 1 23	2815	45 35 32	2830
	α Arietis	W.	29 41 43	2722	31 17 53	2705	32 54 26	2692	34 31 17	2684
	Pollux	E.	47 8 55	2293	45 25 10	2407	43 41 45	2422	41 58 41	2436
	Regulus	E.	83 35 0	2401	81 51 26	2415	80 8 12	2429	78 25 19	2444
5	SUN	W.	92 28 55	2848	94 2 20	2863	95 35 26	2878	97 8 13	2893
	VENUS	W.	53 21 25	2965	54 53 38	2919	56 25 33	2934	57 57 9	2949
	α Arietis	W.	42 37 13	2676	44 14 25	2680	45 51 32	2684	47 28 33	2689
	Pollux	E.	33 28 35	2510	31 47 36	2525	30 6 58	2540	28 26 41	2555
	Regulus	E.	69 56 0	2515	68 15 8	2530	66 34 36	2544	64 54 24	2558
	SATURN	E.	99 6 25	2477	97 24 39	2491	95 43 13	2504	94 2 5	2517
6	SUN	W.	104 47 31	2984	106 18 29	2977	107 49 10	2991	109 19 34	3004
	VENUS	W.	65 30 36	3019	67 0 25	3033	68 29 57	3046	69 59 13	3059
	α Arietis	W.	55 31 35	2725	57 7 41	2733	58 43 37	2741	60 19 22	2750
	Regulus	E.	56 38 8	2626	54 59 48	2640	53 21 47	2653	51 44 4	2666
	SATURN	E.	85 41 2	2522	84 1 42	2535	82 22 40	2547	80 43 55	2559
7	SUN	W.	116 47 30	3069	118 16 18	3081	119 44 51	3093	121 13 9	3105
	VENUS	W.	77 21 36	3122	78 49 19	3133	80 16 48	3146	81 44 2	3158
	α Arietis	W.	68 15 12	2795	69 49 46	2804	71 24 9	2813	72 58 20	2822
	Aldebaran	W.	37 43 9	2788	39 17 52	2794	40 52 28	2800	42 26 56	2806
	Regulus	E.	43 39 51	2731	42 3 52	2744	40 28 10	2756	38 52 45	2770
	SATURN	E.	72 34 9	2677	70 56 58	2688	69 20 2	2698	67 43 20	2709
8	SUN	W.	128 31 9	3162	129 58 4	3173	131 24 46	3183	132 51 15	3194
	α Arietis	W.	80 46 20	2866	82 19 22	2876	83 52 12	2884	85 24 51	2893
	Aldebaran	W.	50 17 12	2839	51 50 49	2846	53 24 17	2853	54 57 36	2861
	Regulus	E.	31 0 2	2868	29 26 23	2853	27 53 4	2869	26 20 5	2886
	SATURN	E.	59 43 16	2759	58 7 54	2769	56 32 45	2778	54 57 48	2786
	Spica	E.	84 56 31	2796	83 21 58	2805	81 47 37	2815	80 13 28	2824
9	α Arietis	W.	93 5 23	2935	94 36 58	2943	96 8 22	2951	97 39 36	2960
	Aldebaran	W.	62 41 52	2896	64 14 16	2902	65 46 32	2909	67 18 39	2916
	SATURN	E.	47 5 53	2829	45 32 3	2837	43 58 23	2845	42 24 54	2852
	Spica	E.	72 25 38	2867	70 52 37	2875	69 19 46	2883	67 47 6	2891

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10	Aldebaran W.	68° 50' 38"	2923	70° 22' 28"	2929	71° 54' 10"	2935	73° 25' 44"	2942
	Pollux W.	24 36 7	2901	26 8 24	2906	27 40 35	2912	29 12 39	2918
	SATURN E.	40 51 34	2860	39 18 24	2868	37 45 24	2875	36 12 33	2883
	Spica E.	66 14 36	2899	64 42 16	2906	63 10 5	2914	61 38 4	2922
11	Aldebaran W.	81 1 32	2973	82 32 19	2979	84 2 58	2985	85 33 30	2990
	Pollux W.	36 51 7	2946	38 22 27	2952	39 53 40	2958	41 24 46	2963
	SATURN E.	28 30 36	2917	26 58 39	2924	25 26 51	2931	23 55 11	2938
	Spica E.	54 0 18	2958	52 29 12	2964	50 58 14	2971	49 27 25	2978
	Antares E.	99 50 59	2944	98 19 36	2950	96 48 20	2956	95 17 12	2962
12	Aldebaran W.	93 4 24	3018	94 34 14	3023	96 3 58	3028	97 33 36	3034
	Pollux W.	48 58 35	2989	50 29 2	2994	51 59 22	2998	53 29 37	3003
	Spica E.	41 55 28	3012	40 25 30	3018	38 55 40	3026	37 25 59	3032
	Antares E.	87 43 17	2989	86 12 50	2994	84 42 30	2999	83 12 16	3004
13	Pollux W.	60 59 26	3025	62 29 8	3029	63 58 45	3032	65 28 18	3036
	Regulus W.	24 53 57	3095	26 22 13	3092	27 50 32	3090	29 18 54	3087
	Antares E.	75 42 34	3096	74 12 54	3031	72 43 20	3034	71 13 50	3039
	MARS E.	96 53 35	3251	95 28 26	3255	94 3 22	3259	92 38 23	3263
14	Pollux W.	72 54 55	3052	74 24 3	3056	75 53 7	3058	77 22 8	3060
	Regulus W.	36 41 3	3087	38 9 29	3087	39 37 54	3088	41 6 18	3088
	Antares E.	63 47 30	3056	62 18 26	3059	60 49 26	3062	59 20 30	3065
	MARS E.	85 34 32	3281	84 9 58	3283	82 45 27	3287	81 21 0	3289
15	Pollux W.	84 46 31	3070	86 15 17	3072	87 44 1	3073	89 12 44	3074
	Regulus W.	48 28 8	3091	49 56 28	3092	51 24 47	3092	52 53 6	3092
	SATURN W.	19 51 45	3051	21 20 55	3050	22 50 6	3050	24 19 17	3050
	Antares E.	51 56 35	3076	50 27 56	3078	48 59 19	3079	47 30 44	3081
	MARS E.	74 19 28	3300	72 55 17	3301	71 31 7	3303	70 6 59	3305
16	Pollux W.	96 36 5	3075	98 4 45	3074	99 33 26	3074	101 2 7	3073
	Regulus W.	60 14 43	3091	61 43 4	3089	63 11 27	3088	64 39 51	3087
	SATURN W.	31 45 13	3049	33 14 25	3047	34 43 39	3047	36 12 54	3045
	Antares E.	40 8 11	3085	38 39 43	3086	37 11 16	3085	35 42 48	3086
	MARS E.	63 6 35	3306	61 42 31	3306	60 18 27	3306	58 54 22	3306
	α Aquilæ E.	90 37 14	3296	89 23 50	3296	88 10 26	3297	86 57 3	3298
17	Regulus W.	72 2 22	3076	73 31 1	3073	74 59 44	3069	76 28 31	3066
	SATURN W.	43 39 41	3034	45 9 11	3032	46 38 44	3029	48 8 21	3025
	Spica W.	18 14 18	3178	19 40 53	3158	21 7 52	3143	22 35 10	3129
	MARS E.	51 53 39	3297	50 29 24	3294	49 5 6	3292	47 40 45	3289
	α Aquilæ E.	80 50 39	3215	79 37 34	3219	78 24 34	3225	77 11 40	3233
	SUN E.	136 59 53	3464	135 38 49	3460	134 17 40	3455	132 56 26	3451
18	Regulus W.	83 53 41	3043	85 23 1	3037	86 52 28	3030	88 22 3	3025
	SATURN W.	55 37 42	3002	57 7 52	2997	58 38 9	2990	60 8 34	2985
	Spica W.	29 55 22	3075	31 24 2	3066	32 52 53	3056	34 21 56	3047
	MARS E.	40 38 2	3270	39 13 15	3265	37 48 22	3260	36 23 24	3255
	α Aquilæ E.	71 9 16	3281	69 57 18	3295	68 45 33	4009	67 34 2	4025
	SUN E.	126 8 49	3423	124 46 58	3415	123 24 59	3408	122 2 52	3400

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10	Aldebaran W.	74 57 9	2949	76 26 26	2954	77 59 36	2961	79 30 38	2967
	Pollux W.	30 44 35	2994	32 16 24	2999	33 48 6	2995	35 19 40	2941
	SATURN E.	34 39 52	2889	33 7 19	2897	31 34 56	2904	30 2 42	2910
	Spica E.	60 6 13	2928	58 34 30	2936	57 2 57	2943	55 31 33	2950
11	Aldebaran W.	87 3 55	2997	88 34 12	3001	90 4 23	3007	91 34 27	3013
	Pollux W.	42 55 45	2969	44 26 37	2973	45 57 23	2979	47 28 2	2984
	SATURN E.	22 23 40	2944	20 52 17	2959	19 21 4	2959	17 50 0	2967
	Spica E.	47 56 45	2985	46 26 13	2992	44 55 50	2998	43 25 35	3005
	Antares E.	93 46 11	2967	92 15 17	2973	90 44 30	2978	89 13 50	2984
12	Aldebaran W.	99 3 7	3039	100 32 32	3043	102 1 51	3048	103 31 4	3053
	Pollux W.	54 59 46	3008	56 29 49	3019	57 59 47	3017	59 29 39	3021
	Spica E.	35 56 26	3040	34 27 3	3047	32 57 49	3056	31 28 45	3063
	Antares E.	81 42 8	3009	80 12 6	3014	78 42 10	3018	77 12 19	3022
13	Pollux W.	66 57 46	3039	68 27 10	3043	69 56 29	3047	71 25 44	3050
	Regulus W.	30 47 19	3087	32 15 45	3087	33 44 11	3087	35 12 37	3087
	Antares E.	69 44 25	3043	68 15 5	3046	66 45 49	3050	65 16 38	3052
	MARS E.	91 13 28	3267	89 48 38	3270	88 23 52	3274	86 59 10	3277
14	Pollux W.	78 51 6	3083	80 20 1	3085	81 48 53	3087	83 17 43	3089
	Regulus W.	42 34 42	3089	44 3 5	3090	45 31 27	3091	46 59 48	3091
	Antares E.	57 51 37	3067	56 22 47	3069	54 54 0	3079	53 25 16	3074
	MARS E.	79 56 36	3299	78 32 15	3294	77 7 57	3296	75 43 41	3299
15	Pollux W.	90 41 25	3074	92 10 6	3075	93 38 46	3078	95 7 25	3075
	Regulus W.	54 21 25	3092	55 49 44	3092	57 18 3	3091	58 46 23	3091
	SATURN W.	25 48 28	3050	27 17 39	3050	28 46 50	3050	30 16 1	3049
	Antares E.	46 2 11	3089	44 33 39	3083	43 5 9	3084	41 36 40	3084
	MARS E.	68 42 53	3306	67 18 48	3306	65 54 43	3306	64 30 39	3306
16	Pollux W.	102 30 50	3079	103 59 34	3070	105 28 20	3069	106 57 8	3066
	Regulus W.	66 8 16	3085	67 36 44	3083	69 5 14	3081	70 33 47	3079
	SATURN W.	37 42 11	3043	39 11 30	3043	40 40 51	3039	42 10 15	3038
	Antares E.	34 14 21	3086	32 45 54	3085	31 17 26	3085	29 48 58	3084
	MARS E.	57 30 17	3304	56 6 10	3303	54 42 2	3301	53 17 52	3299
	α Aquilæ E.	85 43 41	3900	84 30 21	3902	83 17 3	3906	82 3 49	3910
17	Regulus W.	77 57 22	3062	79 26 18	3057	80 55 20	3053	82 24 27	3047
	SATURN W.	49 38 3	3092	51 7 49	3017	52 37 41	3013	54 7 38	3007
	Spica W.	24 2 45	3116	25 30 35	3105	26 58 38	3095	28 26 54	3085
	MARS E.	46 16 21	3286	44 51 53	3282	43 27 21	3278	42 2 44	3274
	α Aquilæ E.	75 58 54	3941	74 46 16	3949	73 33 46	3959	72 21 26	3969
	SUN E.	131 35 7	3446	130 13 42	3440	128 52 11	3434	127 30 33	3429
18	Regulus W.	89 51 45	3018	91 21 36	3011	92 51 35	3001	94 21 43	2996
	SATURN W.	61 39 6	2977	63 9 47	2970	64 40 37	2962	66 11 37	2955
	Spica W.	35 51 10	3038	37 20 36	3039	38 50 13	3019	40 20 2	3009
	MARS E.	34 58 20	3250	33 33 10	3244	32 7 53	3238	30 42 29	3233
	α Aquilæ E.	66 22 47	4041	65 11 48	4061	64 1 8	4080	62 50 47	4103
	SUN E.	120 40 36	3393	119 18 11	3385	117 55 37	3376	116 32 53	3367

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19	Regulus W.	95 52 1	2988	97 22 29	2979	98 53 8	2969	100 23 59	2961
	SATURN W.	67 42 46	2946	69 14 6	2939	70 45 36	2929	72 17 18	2920
	Spica W.	41 50 3	2999	43 20 17	2989	44 50 43	2979	46 21 22	2969
	MARS E.	29 16 59	3227	27 51 22	3222	26 25 39	3216	24 59 49	3212
	α Aquilæ E.	61 40 48	4127	60 31 12	4155	59 22 3	4184	58 13 22	4216
	Fomalhaut E.	87 44 52	3148	86 17 40	3140	84 50 19	3132	83 22 48	3123
	SUN E.	115 9 59	3358	113 46 54	3348	112 23 38	3338	111 0 10	3326
20	SATURN W.	79 58 58	2866	81 32 0	2855	83 5 17	2842	84 38 50	2830
	Spica W.	53 58 5	2910	55 30 11	2898	57 2 32	2885	58 35 10	2873
	α Aquilæ E.	52 38 29	4431	51 33 36	4489	50 29 34	4550	49 26 26	4621
	Fomalhaut E.	76 2 35	3079	74 34 0	3069	73 5 13	3061	71 36 16	3052
	SUN E.	103 59 35	3267	102 34 45	3254	101 9 40	3241	99 44 19	3227
21	Spica W.	66 22 41	2801	67 57 8	2786	69 31 54	2770	71 7 1	2755
	Antares W.	20 31 1	2827	22 4 54	2805	23 39 15	2785	25 14 2	2767
	Fomalhaut E.	64 8 41	3007	62 38 37	2998	61 8 22	2990	59 37 57	2982
	SUN E.	92 33 18	3152	91 6 11	3135	89 38 44	3119	88 10 57	3101
22	Spica W.	79 7 54	2673	80 45 12	2655	82 22 53	2637	84 0 58	2618
	Antares W.	33 14 0	2675	34 51 13	2657	36 28 51	2638	38 6 54	2619
	Fomalhaut E.	52 3 40	2953	50 32 28	2950	49 1 12	2947	47 29 53	2948
	SUN E.	80 46 43	3013	79 16 46	2993	77 46 25	2975	76 15 41	2955
23	Spica W.	92 17 34	2527	93 58 9	2509	95 39 10	2490	97 20 37	2471
	Antares W.	46 23 36	2525	48 4 15	2506	49 45 20	2487	51 26 52	2467
	MARS W.	19 30 24	2779	21 5 20	2750	22 40 53	2723	24 17 2	2698
	SUN E.	68 35 50	2657	67 2 36	2638	65 28 57	2617	63 54 51	2597
24	Antares W.	60 1 21	2372	61 45 36	2353	63 30 19	2334	65 15 29	2315
	MARS W.	32 26 5	2580	34 5 28	2559	35 45 20	2537	37 25 42	2516
	SUN E.	55 57 47	2697	54 21 3	2678	52 43 53	2658	51 6 16	2639
25	Antares W.	74 7 58	2227	75 55 46	2210	77 43 59	2193	79 32 37	2177
	MARS W.	45 54 40	2417	47 37 50	2399	49 21 26	2381	51 5 28	2363
	SUN E.	42 51 49	2547	41 11 41	2530	39 31 9	2514	37 50 15	2497
26	MARS W.	59 51 44	2284	61 38 7	2270	63 24 51	2256	65 11 55	2244
	α Aquilæ W.	49 19 48	3782	50 35 9	3680	51 52 17	3587	53 11 6	3502
	SUN E.	29 20 28	2429	27 37 35	2419	25 54 28	2410	24 11 8	2404
29	SUN W.	13 38 41	2379	15 22 46	2364	17 7 12	2354	18 51 52	2347
	Aldebaran E.	45 32 31	2048	43 40 11	2058	41 48 7	2069	39 56 20	2083
	Pollux E.	89 14 41	1979	87 20 33	1983	85 26 32	1988	83 32 39	1994
30	SUN W.	27 36 8	2358	29 20 43	2366	31 5 6	2375	32 49 16	2385
	Pollux E.	74 6 3	2036	72 13 25	2046	70 21 3	2057	68 28 58	2068
	Regulus E.	110 29 32	2049	108 37 14	2059	106 45 12	2070	104 53 26	2081
31	SUN W.	41 26 9	2447	43 8 37	2462	44 50 44	2477	46 32 30	2492
	Pollux E.	59 13 14	2134	57 23 7	2149	55 33 22	2164	53 44 0	2180
	Regulus E.	95 39 11	2145	93 49 21	2159	91 59 52	2174	90 10 46	2190

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19	Regulus W.	101° 55' 1"	2950	103° 26' 16"	2941	104° 57' 43"	2931	106° 29' 23"	2919
	SATURN W.	73 49 12	2909	75 21 19	2900	76 53 38	2889	78 26 11	2878
	Spica W.	47 52 14	2958	49 23 20	2946	50 54 40	2935	52 26 15	2923
	MARS E.	23 33 54	2907	22 7 53	2904	20 41 49	2903	19 15 42	2901
	α Aquilæ E.	57 5 11	4251	55 57 33	4290	54 50 31	4333	53 44 9	4379
	Fomalhaut E.	81 55 6	3114	80 27 14	3108	78 59 12	3097	77 30 59	3088
	SUN E.	109 36 29	3316	108 12 36	3305	106 48 30	3293	105 24 10	3280
20	SATURN W.	86 12 39	2817	87 46 45	2804	89 21 8	2790	90 55 49	2776
	Spica W.	60 8 4	2859	61 41 16	2845	63 14 46	2831	64 48 34	2816
	α Aquilæ E.	48 24 19	4697	47 23 17	4782	46 23 26	4876	45 24 52	4963
	Fomalhaut E.	70 7 7	3043	68 37 47	3034	67 8 16	3025	65 38 34	3016
	SUN E.	98 18 42	3213	96 52 48	3198	95 26 36	3183	94 0 6	3168
21	Spica W.	72 42 28	2738	74 18 17	2722	75 54 27	2708	77 30 59	2689
	Antares W.	26 49 13	2749	28 24 48	2730	30 0 48	2712	31 37 12	2694
	Fomalhaut E.	58 7 22	2975	56 36 38	2969	55 5 46	2962	53 34 46	2958
	SUN E.	86 42 49	3084	85 14 20	3067	83 45 30	3049	82 16 18	3030
22	Spica W.	85 39 28	2601	87 18 22	2583	88 57 41	2564	90 37 25	2546
	Antares W.	39 45 23	2601	41 24 17	2582	43 3 37	2563	44 43 23	2543
	Fomalhaut E.	45 58 35	2950	44 27 19	2954	42 56 8	2960	41 25 5	2968
	SUN E.	74 44 32	2936	73 12 59	2916	71 41 1	2897	70 8 38	2877
23	Spica W.	99 2 31	2453	100 44 51	2434	102 27 37	2415	104 10 50	2397
	Antares W.	53 8 52	2448	54 51 18	2429	56 34 12	2410	58 17 33	2391
	MARS W.	25 53 45	2672	27 31 2	2649	29 8 51	2625	30 47 12	2601
	SUN E.	62 20 19	2777	60 45 20	2757	59 9 56	2737	57 34 5	2716
24	Antares W.	67 1 6	2297	68 47 10	2279	70 33 40	2262	72 20 36	2244
	MARS W.	39 6 33	2495	40 47 53	2475	42 29 41	2455	44 11 57	2436
	SUN E.	49 28 14	2620	47 49 46	2601	46 10 52	2583	44 31 33	2564
25	Antares W.	81 21 39	2161	83 11 5	2146	85 0 54	2131	86 51 6	2116
	MARS W.	52 49 56	2346	54 34 48	2330	56 20 4	2314	58 5 43	2299
	SUN E.	36 8 58	2482	34 27 20	2468	32 45 22	2454	31 3 4	2441
26	MARS W.	66 59 17	2232	68 46 57	2220	70 34 55	2209	72 23 9	2199
	α Aquilæ W.	54 31 28	3424	55 53 17	3352	57 16 28	3288	58 40 54	3227
	SUN E.	22 27 39	2399	20 44 3	2397	19 0 24	2396	17 16 46	2401
29	SUN W.	20 36 44	2345	22 21 38	2344	24 6 33	2347	25 51 24	2352
	Aldebaran E.	38 4 54	2098	36 13 51	2114	34 23 13	2133	32 33 4	2155
	Pollux E.	81 38 56	2001	79 45 24	2009	77 52 3	2017	75 58 56	2026
30	SUN W.	34 33 12	2396	36 16 52	2408	38 0 16	2420	39 43 22	2433
	Pollux E.	66 37 10	2081	64 45 41	2094	62 54 32	2107	61 3 43	2120
	Regulus E.	103 1 57	2093	101 10 47	2105	99 19 55	2118	97 29 23	2131
31	SUN W.	48 13 54	2509	49 54 55	2525	51 35 34	2542	53 15 49	2559
	Pollux E.	51 55 2	2195	50 6 27	2212	48 18 17	2228	46 30 31	2245
	Regulus E.	88 22 3	2206	86 33 44	2221	84 45 48	2237	82 58 16	2254

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Subtracted from Apparent Time.			
Frid.	1	^h 0 ^m 44 ^s 59.02	^s 9.105	N. 4° 50' 11.9	+57.72	16' 1.96	^s 64.52	^m 3 ^s 45.06	^s 0.749	
Sat.	2	0 48 37.60	9.110	5 13 14.4	57.49	16 1.69	64.54	3 27.15	0.744	
SUN.	3	0 52 16.31	9.116	5 36 11.2	57.25	16 1.43	64.56	3 9.36	0.738	
Mon.	4	0 55 55.17	9.122	5 59 2.1	+56.99	16 1.16	64.59	2 51.71	0.732	
Tues.	5	0 59 34.19	9.129	6 21 46.7	56.72	16 0.89	64.62	2 34.22	0.725	
Wed.	6	1 3 13.39	9.137	6 44 24.5	56.43	16 0.62	64.65	2 16.91	0.717	
Thur.	7	1 6 52.79	9.146	7 6 55.3	+56.13	16 0.35	64.68	1 59.80	0.708	
Frid.	8	1 10 32.40	9.155	7 29 18.7	55.82	16 0.08	64.72	1 42.91	0.699	
Sat.	9	1 14 12.26	9.166	7 51 34.5	55.50	15 59.81	64.76	1 26.26	0.688	
SUN.	10	1 17 52.38	9.177	8 13 42.3	+55.16	15 59.54	64.80	1 9.87	0.677	
Mon.	11	1 21 32.78	9.189	8 35 41.8	54.81	15 59.27	64.84	0 53.76	0.665	
Tues.	12	1 25 13.47	9.202	8 57 32.7	54.44	15 59.00	64.89	0 37.95	0.652	
Wed.	13	1 28 54.48	9.216	9 19 14.7	+54.05	15 58.73	64.94	0 22.44	0.636	
Thur.	14	1 32 35.83	9.230	9 40 47.4	53.66	15 58.46	64.99	0 7.28	0.624	
Frid.	15	1 36 17.54	9.245	10 2 10.6	53.26	15 58.19	65.04	0 7.53	0.609	
Sat.	16	1 39 59.62	9.261	10 23 24.0	+52.84	15 57.92	65.10	0 21.96	0.593	
SUN.	17	1 43 42.10	9.279	10 44 27.2	52.41	15 57.65	65.15	0 36.00	0.576	
Mon.	18	1 47 24.99	9.296	11 5 19.9	51.97	15 57.38	65.21	0 49.63	0.559	
Tues.	19	1 51 8.30	9.314	11 26 1.9	+51.51	15 57.11	65.27	1 2.83	0.541	
Wed.	20	1 54 52.06	9.333	11 46 32.7	51.04	15 56.85	65.33	1 15.60	0.522	
Thur.	21	1 58 36.27	9.352	12 6 52.0	50.56	15 56.58	65.39	1 27.91	0.503	
Frid.	22	2 2 20.94	9.372	12 26 59.5	+50.06	15 56.32	65.46	1 39.76	0.483	
Sat.	23	2 6 6.08	9.392	12 46 54.9	49.54	15 56.06	65.53	1 51.15	0.463	
SUN.	24	2 9 51.70	9.412	13 6 37.9	49.01	15 55.80	65.60	2 2.05	0.443	
Mon.	25	2 13 37.82	9.432	13 26 8.0	+48.47	15 55.55	65.67	2 12.46	0.423	
Tues.	26	2 17 24.44	9.453	13 45 24.9	47.91	15 55.30	65.74	2 22.37	0.402	
Wed.	27	2 21 11.56	9.474	14 4 28.3	47.35	15 55.06	65.81	2 31.78	0.381	
Thur.	28	2 24 59.18	9.495	14 23 17.7	+46.76	15 54.82	65.89	2 40.68	0.360	
Frid.	29	2 28 47.32	9.517	14 41 52.9	46.16	15 54.58	65.96	2 49.07	0.338	
Sat.	30	2 32 35.99	9.539	15 0 13.5	45.55	15 54.34	66.04	2 56.94	0.316	
SUN.	31	2 36 25.18	9.561	N.15 18 19.2	+44.92	15 54.10	66.12	3 4.28	0.294	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0'.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		h m s	s	N. ° ' "	"	m s	s	h m s
Frid.	1	0 44 58.45	9.107	N. 4 50' 8.3	+57.73	3 45.11	0.749	0 41 13.34
Sat.	2	0 48 37.08	9.112	5 13 11.1	57.50	3 27.19	0.744	0 45 9.89
SUN.	3	0 52 15.84	9.118	5 36 8.2	57.26	3 9.40	0.738	0 49 6.44
Mon.	4	0 55 54.74	9.124	5 58 59.4	+57.00	2 51.75	0.732	0 53 2.99
Tues.	5	0 59 33.80	9.131	6 21 44.2	56.73	2 34.26	0.725	0 56 59.55
Wed.	6	1 3 13.05	9.139	6 44 22.3	56.44	2 16.95	0.717	1 0 56.10
Thur.	7	1 6 52.49	9.148	7 6 53.4	+56.14	1 59.83	0.708	1 4 52.66
Frid.	8	1 10 32.14	9.157	7 29 17.1	55.83	1 42.93	0.699	1 8 49.21
Sat.	9	1 14 12.04	9.168	7 51 33.2	55.51	1 26.27	0.688	1 12 45.77
SUN	10	1 17 52.20	9.179	8 13 41.2	+55.17	1 9.88	0.677	1 16 42.32
Mon.	11	1 21 32.64	9.191	8 35 40.9	54.82	0 53.77	0.665	1 20 38.87
Tues.	12	1 25 13.37	9.204	8 57 32.1	54.45	0 37.95	0.652	1 24 35.42
Wed.	13	1 28 54.42	9.218	9 19 14.3	+54.06	0 22.44	0.638	1 28 31.98
Thur.	14	1 32 35.81	9.232	9 40 47.3	53.67	0 7.28	0.624	1 32 28.53
Frid.	15	1 36 17.56	9.247	10 2 10.7	53.27	0 7.53	0.609	1 36 25.09
Sat.	16	1 39 59.68	9.263	10 23 24.3	+52.85	0 21.96	0.593	1 40 21.64
SUN.	17	1 43 42.20	9.280	10 44 27.7	52.42	0 36.00	0.576	1 44 18.20
Mon.	18	1 47 25.12	9.297	11 5 20.6	51.98	0 49.63	0.559	1 48 14.75
Tues.	19	1 51 8.47	9.315	11 26 2.7	+51.52	1 2.84	0.541	1 52 11.31
Wed.	20	1 54 52.26	9.334	11 46 33.7	51.05	1 15.61	0.522	1 56 7.86
Thur.	21	1 58 36.50	9.353	12 6 53.2	50.57	1 27.92	0.503	2 0 4.42
Frid.	22	2 2 21.20	9.373	12 27 0.9	+50.07	1 39.77	0.483	2 4 0.97
Sat.	23	2 6 6.37	9.393	12 46 56.5	49.55	1 51.16	0.463	2 7 57.53
SUN.	24	2 9 52.02	9.413	13 6 39.5	49.02	2 2.06	0.443	2 11 54.08
Mon.	25	2 13 38.17	9.433	13 26 9.7	+48.48	2 12.47	0.423	2 15 50.64
Tues.	26	2 17 24.81	9.454	13 45 26.7	47.92	2 22.39	0.402	2 19 47.19
Wed.	27	2 21 11.95	9.475	14 4 30.1	47.35	2 31.80	0.381	2 23 43.75
Thur.	28	2 24 59.60	9.496	14 23 19.7	+46.76	2 40.70	0.360	2 27 40.30
Frid.	29	2 28 47.77	9.518	14 41 55.0	46.16	2 49.09	0.338	2 31 36.86
Sat.	30	2 32 36.46	9.540	15 0 15.7	45.55	2 56.96	0.316	2 35 33.41
SUN.	31	2 36 25.67	9.562	N. 15 18 21.5	+44.92	3 4.30	0.294	2 39 29.97

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 Hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	92	12° 13' 57".6	13' 58".4	147.85	+ 0".18	0.0000139	+51.3	^h 23 ^m 14 ^s 57.51
2	93	13 13 5.0	13 5.6	147.75	0.32	0.0001368	51.1	23 11 1.60
3	94	14 12 10.1	12 10.6	147.66	0.44	0.0002593	51.0	23 7 5.69
4	95	15 11 13.0	11 13.4	147.57	+ 0.53	0.0003815	+50.9	23 3 9.78
5	96	16 10 13.6	10 13.9	147.48	0.60	0.0005035	50.9	22 59 13.88
6	97	17 9 11.8	9 12.0	147.38	0.65	0.0006254	50.8	22 55 17.97
7	98	18 8 7.7	8 7.8	147.29	+ 0.67	0.0007472	+50.8	22 51 22.06
8	99	19 7 1.3	7 1.3	147.19	0.66	0.0008691	50.8	22 47 26.15
9	100	20 5 52.7	5 52.6	147.10	0.61	0.0009911	50.8	22 43 30.25
10	101	21 4 41.9	4 41.7	147.01	+ 0.53	0.0011132	+50.9	22 39 34.34
11	102	22 3 29.0	3 28.7	146.92	0.43	0.0012355	50.9	22 35 38.43
12	103	23 2 14.2	2 13.8	146.84	0.32	0.0013580	51.0	22 31 42.52
13	104	24 0 57.4	0 56.9	146.76	+ 0.20	0.0014807	+51.0	22 27 46.62
14	105	24 59 38.7	59 38.1	146.68	+ 0.07	0.0016035	51.1	22 23 50.71
15	106	25 58 18.2	58 17.4	146.60	— 0.06	0.0017262	51.1	22 19 54.80
16	107	26 56 55.8	56 54.9	146.53	— 0.18	0.0018488	+51.0	22 15 58.89
17	108	27 55 31.7	55 30.7	146.46	0.28	0.0019711	50.9	22 12 2.98
18	109	28 54 6.0	54 4.9	146.40	0.37	0.0020930	50.7	22 8 7.07
19	110	29 52 38.7	52 37.4	146.33	— 0.43	0.0022144	+50.4	22 4 11.16
20	111	30 51 9.7	51 8.3	146.26	0.46	0.0023351	50.1	22 0 15.26
21	112	31 49 39.1	49 37.6	146.19	0.45	0.0024549	49.7	21 56 19.35
22	113	32 48 6.9	48 5.3	146.13	— 0.42	0.0025738	+49.3	21 52 23.44
23	114	33 46 33.1	46 31.4	146.06	0.36	0.0026915	48.8	21 48 27.53
24	115	34 44 57.6	44 55.7	145.98	0.27	0.0028079	48.2	21 44 31.62
25	116	35 43 20.3	43 18.3	145.91	— 0.16	0.0029229	+47.6	21 40 35.71
26	117	36 41 41.3	41 39.2	145.84	— 0.04	0.0030364	47.0	21 36 39.80
27	118	37 40 0.6	39 58.4	145.77	+ 0.09	0.0031483	46.4	21 32 43.89
28	119	38 38 18.0	38 15.7	145.69	+ 0.23	0.0032586	+45.7	21 28 47.98
29	120	39 36 33.5	36 31.0	145.61	0.37	0.0033674	45.1	21 24 52.07
30	121	40 34 47.1	34 44.4	145.53	0.49	0.0034746	44.4	21 20 56.17
31	122	41 32 58.8	32 56.0	145.45	+ 0.58	0.0035803	+43.8	21 17 0.26
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 1 st .								
Diff. for 1 Hour, — 9".8296. (Table II.)								

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	16' 15.2	16' 8.0	59' 32.4	-2.16	59' 5.8	-2.26	3 47.7	2.44	3.9
2	16 0.5	15 53.0	58 38.4	2.29	58 10.9	2.28	4 47.0	2.46	4.9
3	15 45.6	15 38.4	57 43.7	2.24	57 17.4	2.15	5 45.9	2.41	5.9
4	15 31.6	15 25.1	56 52.2	-2.05	56 28.4	-1.92	6 42.8	2.30	6.9
5	15 19.1	15 13.5	56 6.3	1.78	55 45.9	1.63	7 36.2	2.14	7.9
6	15 8.4	15 3.9	55 27.3	1.47	55 10.7	1.31	8 25.5	1.98	8.9
7	14 59.9	14 56.3	54 55.9	-1.16	54 42.9	-1.01	9 11.3	1.84	9.9
8	14 53.3	14 50.7	54 31.7	0.86	54 22.3	0.72	9 54.0	1.74	10.9
9	14 48.6	14 46.9	54 14.4	0.59	54 8.2	0.46	10 34.6	1.67	11.9
10	14 45.6	14 44.7	54 3.4	-0.34	54 0.1	-0.23	11 14.0	1.64	12.9
11	14 44.2	14 44.0	53 58.1	-0.11	53 57.5	0.00	11 53.4	1.66	13.9
12	14 44.2	14 44.7	53 58.1	+0.11	54 0.1	+0.22	12 33.5	1.71	14.9
13	14 45.6	14 46.8	54 3.4	+0.33	54 8.0	+0.45	13 15.4	1.80	15.9
14	14 48.5	14 50.5	54 14.0	0.56	54 21.4	0.68	13 59.8	1.91	16.9
15	14 52.9	14 55.8	54 30.3	0.81	54 40.8	0.95	14 47.2	2.04	17.9
16	14 59.1	15 2.8	54 52.9	+1.09	55 6.7	+1.23	15 37.8	2.16	18.9
17	15 7.1	15 11.8	55 22.3	1.37	55 39.5	1.51	16 31.1	2.26	19.9
18	15 16.9	15 22.6	55 58.5	1.66	56 19.2	1.80	17 26.2	2.30	20.9
19	15 28.6	15 35.1	56 41.5	+1.92	57 5.3	+2.04	18 21.6	2.29	21.9
20	15 41.9	15 49.0	57 30.3	2.13	57 56.3	2.20	19 16.4	2.25	22.9
21	15 56.2	16 3.5	58 22.9	2.22	58 49.6	2.21	20 9.5	2.19	23.9
22	16 10.7	16 17.6	59 15.9	+2.16	59 41.3	+2.06	21 1.3	2.14	24.9
23	16 24.0	16 29.9	60 5.0	1.89	60 26.5	1.67	21 52.4	2.13	25.9
24	16 34.9	16 39.0	60 45.0	1.40	60 59.9	1.07	22 43.7	2.17	26.9
25	16 41.9	16 43.6	61 10.6	+0.71	61 16.8	+0.31	23 36.5	2.25	27.9
26	16 44.0	16 42.9	61 18.1	-0.10	61 14.4	-0.51	♄		28.9
27	16 40.6	16 37.0	61 5.8	0.90	60 52.6	1.27	0 31.9	2.34	0.6
28	16 32.3	16 26.6	60 35.3	-1.60	60 14.3	-1.88	1 30.2	2.48	1.6
29	16 20.1	16 12.9	59 50.4	2.09	59 24.2	2.25	2 30.9	2.55	2.6
30	16 5.4	15 57.6	58 56.4	2.35	58 27.8	2.40	3 32.5	2.54	3.6
31	15 49.7	15 42.0	57 59.0	-2.39	57 30.5	-2.34	4 32.6	2.43	4.6

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	4 19 58.86	2.5108	N.23 15 9.1	9.007	0	6 21 33.38	2.5197	N.27 12 15.9	0.809
1	4 22 29.58	2.5132	23 24 4.7	8.846	1	6 24 4.06	2.5100	27 12 59.4	0.641
2	4 25 0.44	2.5155	23 32 50.6	8.684	2	6 26 34.58	2.5073	27 13 32.8	0.473
3	4 27 31.44	2.5177	23 41 26.8	8.521	3	6 29 4.92	2.5049	27 13 56.1	0.304
4	4 30 2.57	2.5199	23 49 53.1	8.356	4	6 31 35.08	2.5011	27 14 9.3	+ 0.138
5	4 32 33.83	2.5220	23 58 9.5	8.192	5	6 34 5.05	2.4978	27 14 12.6	- 0.028
6	4 35 5.21	2.5240	24 6 16.1	8.027	6	6 36 34.82	2.4945	27 14 5.9	0.194
7	4 37 36.71	2.5259	24 14 12.7	7.860	7	6 39 4.39	2.4919	27 13 49.3	0.359
8	4 40 8.32	2.5277	24 21 59.3	7.693	8	6 41 33.76	2.4877	27 13 22.8	0.524
9	4 42 40.03	2.5294	24 29 35.9	7.526	9	6 44 2.91	2.4840	27 12 46.4	0.688
10	4 45 11.85	2.5311	24 37 2.4	7.358	10	6 46 31.84	2.4809	27 12 0.2	0.851
11	4 47 43.76	2.5327	24 44 18.8	7.189	11	6 49 0.54	2.4764	27 11 4.3	1.013
12	4 50 15.77	2.5342	24 51 25.1	7.020	12	6 51 29.01	2.4725	27 9 58.7	1.174
13	4 52 47.86	2.5355	24 58 21.2	6.850	13	6 53 57.24	2.4685	27 8 43.4	1.335
14	4 55 20.03	2.5367	25 5 7.1	6.679	14	6 56 25.23	2.4643	27 7 18.5	1.495
15	4 57 52.27	2.5378	25 11 42.7	6.508	15	6 58 52.96	2.4601	27 5 44.0	1.654
16	5 0 24.57	2.5389	25 18 8.1	6.337	16	7 1 20.44	2.4558	27 4 0.0	1.813
17	5 2 56.94	2.5399	25 24 23.2	6.166	17	7 3 47.66	2.4513	27 2 6.5	1.969
18	5 5 29.36	2.5407	25 30 28.0	5.994	18	7 6 14.60	2.4468	27 0 3.7	2.125
19	5 8 1.83	2.5415	25 36 22.4	5.821	19	7 8 41.27	2.4423	26 57 51.5	2.281
20	5 10 34.34	2.5421	25 42 6.5	5.649	20	7 11 7.67	2.4377	26 55 30.0	2.436
21	5 13 6.88	2.5426	25 47 40.3	5.476	21	7 13 33.79	2.4329	26 52 59.2	2.589
22	5 15 39.45	2.5430	25 53 3.7	5.302	22	7 15 59.02	2.4280	26 50 19.3	2.742
23	5 18 12.04	2.5433	N.25 58 16.6	5.128	23	7 18 25.15	2.4231	N.26 47 30.2	2.894
SATURDAY 2.					MONDAY 4.				
0	5 20 44.65	2.5435	N.26 3 19.1	4.955	0	7 20 50.39	2.4181	N.26 44 32.0	3.045
1	5 23 17.26	2.5436	26 8 11.2	4.781	1	7 23 15.32	2.4130	26 41 24.8	3.194
2	5 25 49.88	2.5436	26 12 52.9	4.607	2	7 25 39.95	2.4079	26 38 8.7	3.342
3	5 28 22.49	2.5434	26 17 24.1	4.433	3	7 28 4.27	2.4027	26 34 43.7	3.490
4	5 30 55.09	2.5432	26 21 44.9	4.260	4	7 30 28.28	2.3974	26 31 9.9	3.637
5	5 33 27.67	2.5428	26 25 55.3	4.086	5	7 32 51.96	2.3920	26 27 27.3	3.782
6	5 36 0.22	2.5423	26 29 55.2	3.911	6	7 35 15.32	2.3866	26 23 36.0	3.927
7	5 38 32.74	2.5417	26 33 44.6	3.737	7	7 37 38.36	2.3812	26 19 36.1	4.070
8	5 41 5.22	2.5408	26 37 23.6	3.563	8	7 40 1.06	2.3758	26 15 27.6	4.212
9	5 43 37.64	2.5399	26 40 52.2	3.389	9	7 42 23.43	2.3700	26 11 10.6	4.354
10	5 46 10.01	2.5390	26 44 10.3	3.215	10	7 44 45.46	2.3643	26 6 45.1	4.494
11	5 48 42.32	2.5378	26 47 18.0	3.042	11	7 47 7.15	2.3586	26 2 11.3	4.633
12	5 51 14.55	2.5366	26 50 15.3	2.868	12	7 49 28.49	2.3528	25 57 29.2	4.771
13	5 53 46.71	2.5353	26 53 2.2	2.695	13	7 51 49.48	2.3470	25 52 38.8	4.908
14	5 56 18.79	2.5339	26 55 38.7	2.522	14	7 54 10.13	2.3412	25 47 40.2	5.043
15	5 58 50.78	2.5323	26 58 4.8	2.349	15	7 56 30.43	2.3353	25 42 33.6	5.178
16	6 1 22.67	2.5306	27 0 20.5	2.176	16	7 58 50.37	2.3293	25 37 18.9	5.312
17	6 3 54.45	2.5287	27 2 25.9	2.004	17	8 1 9.95	2.3234	25 31 56.2	5.443
18	6 6 26.12	2.5268	27 4 21.0	1.832	18	8 3 29.18	2.3174	25 26 25.7	5.574
19	6 8 57.67	2.5247	27 6 5.8	1.661	19	8 5 48.04	2.3113	25 20 47.3	5.705
20	6 11 29.09	2.5226	27 7 40.3	1.489	20	8 8 6.54	2.3053	25 15 1.1	5.833
21	6 14 0.38	2.5204	27 9 4.5	1.318	21	8 10 24.67	2.2991	25 9 7.3	5.960
22	6 16 31.54	2.5180	27 10 18.5	1.146	22	8 12 42.43	2.2930	25 3 5.9	6.087
23	6 19 2.54	2.5154	27 11 22.3	0.978	23	8 14 59.83	2.2869	24 56 56.9	6.213
24	6 21 33.38	2.5127	N.27 12 15.9	0.809	24	8 17 16.86	2.2807	N.24 50 40.4	6.337

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
0	^h 8 ^m 17 ^s 16.86	2.9807	N. 24° 50' 40.4"	6.337	0	^h 9 ^m 59 ^s 37.34	1.9913	N. 17° 46' 1.7"	10.918
1	8 19 33.51	2.9744	24 44 16.5	6.459	1	10 1 36.66	1.9861	17 35 4.6	10.986
2	8 21 49.79	2.9682	24 37 45.3	6.581	2	10 3 35.67	1.9809	17 24 3.4	11.052
3	8 24 5.70	2.9620	24 31 6.8	6.703	3	10 5 34.37	1.9758	17 12 58.3	11.118
4	8 26 21.23	2.9557	24 24 21.1	6.821	4	10 7 32.76	1.9707	17 1 49.2	11.184
5	8 28 36.38	2.9494	24 17 28.3	6.938	5	10 9 30.85	1.9656	16 50 36.2	11.249
6	8 30 51.16	2.9431	24 10 28.5	7.055	6	10 11 28.63	1.9605	16 39 19.3	11.319
7	8 33 5.56	2.9368	24 3 21.7	7.172	7	10 13 26.11	1.9556	16 27 58.7	11.374
8	8 35 19.58	2.9305	23 56 7.9	7.287	8	10 15 23.30	1.9507	16 16 34.4	11.436
9	8 37 33.22	2.9242	23 48 47.3	7.399	9	10 17 20.19	1.9458	16 5 6.4	11.497
10	8 39 46.48	2.9179	23 41 20.0	7.511	10	10 19 16.79	1.9410	15 53 34.8	11.555
11	8 41 59.36	2.9116	23 33 46.0	7.622	11	10 21 13.11	1.9363	15 41 59.8	11.613
12	8 44 11.87	2.9053	23 26 5.3	7.732	12	10 23 9.15	1.9317	15 30 21.3	11.670
13	8 46 23.99	2.8990	23 18 18.1	7.841	13	10 25 4.91	1.9270	15 18 39.4	11.727
14	8 48 35.74	2.8926	23 10 24.4	7.947	14	10 27 0.39	1.9224	15 6 54.1	11.782
15	8 50 47.11	2.8863	23 2 24.4	8.053	15	10 28 55.60	1.9179	14 55 5.5	11.837
16	8 52 58.10	2.8800	22 54 18.0	8.159	16	10 30 50.54	1.9134	14 43 13.7	11.891
17	8 55 8.71	2.8737	22 46 5.3	8.263	17	10 32 45.21	1.9090	14 31 18.6	11.944
18	8 57 18.95	2.8675	22 37 46.4	8.366	18	10 34 39.62	1.9047	14 19 20.4	11.995
19	8 59 28.81	2.8612	22 29 21.4	8.467	19	10 36 33.77	1.9004	14 7 19.2	12.046
20	9 1 38.29	2.8549	22 20 50.4	8.567	20	10 38 27.67	1.8961	13 55 14.9	12.097
21	9 3 47.40	2.8487	22 12 13.4	8.667	21	10 40 21.31	1.8919	13 43 7.6	12.146
22	9 5 56.13	2.8424	22 3 30.4	8.765	22	10 42 14.70	1.8878	13 30 57.4	12.193
23	9 8 4.49	2.8362	N. 21 54 41.6	8.861	23	10 44 7.85	1.8838	N. 13 18 44.4	12.240
WEDNESDAY 6.					FRIDAY 8.				
0	9 10 12.48	2.1301	N. 21 45 47.1	8.956	0	10 46 0.76	1.8798	N. 13 6 28.6	12.286
1	9 12 20.10	2.1239	21 36 46.9	9.051	1	10 47 53.43	1.8759	12 54 10.1	12.332
2	9 14 27.35	2.1178	21 27 41.0	9.145	2	10 49 45.87	1.8721	12 41 48.8	12.377
3	9 16 34.24	2.1117	21 18 29.5	9.237	3	10 51 38.08	1.8683	12 29 24.9	12.420
4	9 18 40.76	2.1056	21 9 12.5	9.328	4	10 53 30.06	1.8645	12 16 58.4	12.463
5	9 20 46.91	2.0995	20 59 50.1	9.418	5	10 55 21.82	1.8608	12 4 29.4	12.505
6	9 22 52.70	2.0935	20 50 22.4	9.507	6	10 57 13.36	1.8572	11 51 57.8	12.547
7	9 24 58.13	2.0875	20 40 49.3	9.595	7	10 59 4.68	1.8536	11 39 23.8	12.586
8	9 27 3.20	2.0816	20 31 11.0	9.681	8	11 0 55.79	1.8501	11 26 47.5	12.625
9	9 29 7.92	2.0757	20 21 27.6	9.766	9	11 2 46.70	1.8467	11 14 8.8	12.664
10	9 31 12.28	2.0697	20 11 39.1	9.851	10	11 4 37.40	1.8433	11 1 27.8	12.702
11	9 33 16.29	2.0638	20 1 45.5	9.934	11	11 6 27.90	1.8400	10 48 44.6	12.738
12	9 35 19.94	2.0580	19 51 47.0	10.016	12	11 8 18.20	1.8367	10 35 59.2	12.774
13	9 37 23.25	2.0522	19 41 43.6	10.097	13	11 10 8.30	1.8335	10 23 11.7	12.809
14	9 39 26.21	2.0465	19 31 35.3	10.177	14	11 11 58.22	1.8305	10 10 22.1	12.844
15	9 41 28.83	2.0408	19 21 22.3	10.256	15	11 13 47.96	1.8275	9 57 30.4	12.877
16	9 43 31.10	2.0351	19 11 4.6	10.333	16	11 15 37.52	1.8245	9 44 36.8	12.909
17	9 45 33.04	2.0295	19 0 42.3	10.410	17	11 17 26.90	1.8215	9 31 41.3	12.941
18	9 47 34.64	2.0238	18 50 15.4	10.486	18	11 19 16.10	1.8186	9 18 43.8	12.973
19	9 49 35.90	2.0183	18 39 44.0	10.560	19	11 21 5.13	1.8158	9 5 44.5	13.003
20	9 51 36.84	2.0129	18 29 8.2	10.633	20	11 22 54.00	1.8131	8 52 43.5	13.032
21	9 53 37.45	2.0075	18 18 28.0	10.706	21	11 24 42.70	1.8104	8 39 40.7	13.061
22	9 55 37.74	2.0021	18 7 43.5	10.777	22	11 26 31.24	1.8077	8 26 36.2	13.089
23	9 57 37.70	1.9967	17 56 54.7	10.848	23	11 28 19.63	1.8052	8 13 30.1	13.116
24	9 59 37.34	1.9913	N. 17 46 1.7	10.918	24	11 30 7.87	1.8027	N. 8 0 22.3	13.142

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	11 30 7.87	1.8037	N. 8° 0' 22.3	13.142	0	12 55 0.72	1.7583	S. 2° 46' 4.3	13.507
1	11 31 55.96	1.8003	7 47 13.0	13.167	1	12 56 46.24	1.7590	2 59 34.4	13.497
2	11 33 43.91	1.7980	7 34 2.2	13.192	2	12 58 31.80	1.7597	3 13 3.9	13.486
3	11 35 31.72	1.7957	7 20 50.0	13.215	3	13 0 17.41	1.7605	3 26 32.7	13.474
4	11 37 19.39	1.7934	7 7 36.4	13.238	4	13 2 3.06	1.7613	3 40 0.8	13.461
5	11 39 6.93	1.7912	6 54 21.4	13.261	5	13 3 48.76	1.7621	3 53 28.0	13.447
6	11 40 54.34	1.7891	6 41 5.1	13.282	6	13 5 34.51	1.7630	4 6 54.4	13.432
7	11 42 41.62	1.7871	6 27 47.5	13.303	7	13 7 20.32	1.7640	4 20 19.9	13.417
8	11 44 28.79	1.7852	6 14 28.7	13.323	8	13 9 6.19	1.7651	4 33 44.5	13.402
9	11 46 15.84	1.7833	6 1 8.8	13.342	9	13 10 52.13	1.7662	4 47 8.2	13.386
10	11 48 2.78	1.7814	5 47 47.7	13.361	10	13 12 38.13	1.7674	5 0 30.8	13.369
11	11 49 49.61	1.7796	5 34 25.5	13.378	11	13 14 24.21	1.7686	5 13 52.4	13.351
12	11 51 36.33	1.7778	5 21 2.3	13.395	12	13 16 10.36	1.7698	5 27 12.9	13.332
13	11 53 22.95	1.7762	5 7 38.1	13.411	13	13 17 56.59	1.7712	5 40 32.3	13.312
14	11 55 9.48	1.7746	4 54 13.0	13.427	14	13 19 42.91	1.7726	5 53 50.4	13.292
15	11 56 55.91	1.7731	4 40 46.9	13.442	15	13 21 29.31	1.7741	6 7 7.3	13.273
16	11 58 42.25	1.7717	4 27 20.0	13.455	16	13 23 15.80	1.7757	6 20 23.0	13.250
17	12 0 28.51	1.7702	4 13 52.3	13.467	17	13 25 2.39	1.7772	6 33 37.3	13.227
18	12 2 14.68	1.7688	4 0 23.9	13.479	18	13 26 49.07	1.7788	6 46 50.2	13.204
19	12 4 0.77	1.7676	3 46 54.8	13.491	19	13 28 35.85	1.7806	7 0 1.7	13.180
20	12 5 46.79	1.7665	3 33 25.0	13.502	20	13 30 22.74	1.7824	7 13 11.8	13.155
21	12 7 32.75	1.7654	3 19 54.5	13.513	21	13 32 9.74	1.7842	7 26 20.3	13.129
22	12 9 18.64	1.7643	3 6 23.4	13.522	22	13 33 56.85	1.7861	7 39 27.3	13.103
23	12 11 4.46	1.7632	N. 2 52 51.8	13.531	23	13 35 44.07	1.7880	S. 7 52 32.7	13.076
SUNDAY 10.					TUESDAY 12.				
0	12 12 50.22	1.7623	N. 2 39 19.7	13.539	0	13 37 31.41	1.7900	S. 8 5 36.4	13.048
1	12 14 35.93	1.7614	2 25 47.1	13.546	1	13 39 18.87	1.7921	8 18 38.4	13.019
2	12 16 21.59	1.7605	2 12 14.2	13.552	2	13 41 6.46	1.7942	8 31 38.7	12.990
3	12 18 7.19	1.7597	1 58 40.9	13.557	3	13 42 54.18	1.7964	8 44 37.2	12.959
4	12 19 52.75	1.7591	1 45 7.3	13.562	4	13 44 42.03	1.7987	8 57 33.8	12.928
5	12 21 38.28	1.7585	1 31 33.4	13.567	5	13 46 30.02	1.8009	9 10 28.6	12.897
6	12 23 23.77	1.7579	1 17 59.3	13.570	6	13 48 18.14	1.8032	9 23 21.5	12.865
7	12 25 9.23	1.7574	1 4 25.0	13.573	7	13 50 6.41	1.8057	9 36 12.4	12.832
8	12 26 54.66	1.7569	0 50 50.6	13.575	8	13 51 54.83	1.8082	9 49 1.3	12.797
9	12 28 40.06	1.7565	0 37 16.0	13.577	9	13 53 43.39	1.8107	10 1 48.0	12.761
10	12 30 25.44	1.7562	0 23 41.3	13.577	10	13 55 32.11	1.8133	10 14 32.6	12.726
11	12 32 10.81	1.7560	N. 0 10 6.7	13.577	11	13 57 20.99	1.8159	10 27 15.1	12.690
12	12 33 56.16	1.7558	S. 0 3 27.9	13.576	12	13 59 10.02	1.8185	10 39 55.4	12.652
13	12 35 41.50	1.7557	0 17 2.4	13.574	13	14 0 59.21	1.8213	10 52 33.4	12.614
14	12 37 26.84	1.7557	0 30 36.8	13.572	14	14 2 48.57	1.8242	11 5 9.1	12.575
15	12 39 12.18	1.7557	0 44 11.0	13.569	15	14 4 38.11	1.8271	11 17 42.4	12.535
16	12 40 57.52	1.7557	0 57 45.0	13.565	16	14 6 27.82	1.8299	11 30 13.3	12.494
17	12 42 42.86	1.7558	1 11 18.8	13.561	17	14 8 17.70	1.8328	11 42 41.7	12.452
18	12 44 28.21	1.7559	1 24 52.3	13.555	18	14 10 7.76	1.8358	11 55 7.6	12.410
19	12 46 13.57	1.7562	1 38 25.4	13.548	19	14 11 58.00	1.8389	12 7 30.9	12.367
20	12 47 58.95	1.7565	1 51 58.1	13.542	20	14 13 48.43	1.8421	12 19 51.7	12.324
21	12 49 44.35	1.7569	2 5 30.4	13.535	21	14 15 39.05	1.8453	12 32 9.8	12.279
22	12 51 29.78	1.7574	2 19 2.3	13.527	22	14 17 29.86	1.8485	12 44 25.2	12.233
23	12 53 15.24	1.7578	2 32 33.6	13.517	23	14 19 20.87	1.8518	12 56 37.8	12.187
24	12 55 0.72	1.7583	S. 2 46 4.3	13.507	24	14 21 12.07	1.8551	S. 13 8 47.6	12.140

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	14 21 12.07	1.8551	S. 13° 8' 47.6"	12.140	0	15 54 56.09	2.0643	S. 21° 40' 9.4"	8.812
1	14 23 3.48	1.8585	13 20 54.6	12.092	1	15 57 0.10	2.0693	21 48 55.4	8.790
2	14 24 55.09	1.8619	13 32 58.6	12.044	2	15 59 4.41	2.0744	21 57 35.8	8.697
3	14 26 46.91	1.8654	13 44 59.6	11.992	3	16 1 9.03	2.0795	22 6 10.6	8.532
4	14 28 38.94	1.8689	13 56 57.6	11.942	4	16 3 13.95	2.0846	22 14 39.7	8.437
5	14 30 31.18	1.8725	14 8 52.6	11.890	5	16 5 19.18	2.0897	22 23 3.1	8.341
6	14 32 23.64	1.8762	14 20 44.4	11.837	6	16 7 24.72	2.0948	22 31 20.6	8.244
7	14 34 16.32	1.8798	14 32 33.0	11.783	7	16 9 30.56	2.0999	22 39 32.3	8.146
8	14 36 9.22	1.8835	14 44 18.4	11.730	8	16 11 36.71	2.1051	22 47 38.1	8.047
9	14 38 2.34	1.8873	14 56 0.6	11.676	9	16 13 43.17	2.1102	22 55 37.9	7.946
10	14 39 55.69	1.8912	15 7 39.5	11.620	10	16 15 49.93	2.1152	23 3 31.6	7.844
11	14 41 49.28	1.8951	15 19 15.0	11.562	11	16 17 57.00	2.1203	23 11 19.2	7.742
12	14 43 43.10	1.8990	15 30 47.0	11.504	12	16 20 4.37	2.1254	23 19 0.6	7.639
13	14 45 37.16	1.9030	15 42 15.5	11.446	13	16 22 12.05	2.1306	23 26 35.8	7.535
14	14 47 31.46	1.9070	15 53 40.5	11.387	14	16 24 20.04	2.1357	23 34 4.8	7.430
15	14 49 26.00	1.9110	16 5 1.9	11.326	15	16 26 28.33	2.1407	23 41 27.4	7.324
16	14 51 20.78	1.9150	16 16 19.6	11.265	16	16 28 36.93	2.1458	23 48 43.6	7.217
17	14 53 15.80	1.9191	16 27 33.7	11.203	17	16 30 45.83	2.1509	23 55 53.4	7.109
18	14 55 11.07	1.9233	16 38 44.0	11.140	18	16 32 55.04	2.1560	24 2 56.7	7.000
19	14 57 6.60	1.9276	16 49 50.5	11.076	19	16 35 4.55	2.1610	24 9 53.4	6.890
20	14 59 2.38	1.9319	17 0 53.1	11.011	20	16 37 14.36	2.1661	24 16 43.5	6.779
21	15 0 58.42	1.9362	17 11 51.8	10.945	21	16 39 24.48	2.1711	24 23 26.9	6.667
22	15 2 54.72	1.9405	17 22 46.5	10.878	22	16 41 34.90	2.1761	24 30 3.6	6.555
23	15 4 51.28	1.9448	S. 17° 33' 37.2"	10.811	23	16 43 45.61	2.1810	S. 24° 36' 33.5"	6.441
THURSDAY 14.					SATURDAY 16.				
0	15 6 48.10	1.9492	S. 17° 44' 23.8"	10.749	0	16 45 56.62	2.1860	S. 24° 42' 56.5"	6.326
1	15 8 45.19	1.9537	17 55 6.2	10.672	1	16 48 7.93	2.1909	24 49 12.6	6.211
2	15 10 42.55	1.9582	18 5 44.5	10.602	2	16 50 19.53	2.1958	24 55 21.8	6.096
3	15 12 40.17	1.9627	18 16 18.5	10.531	3	16 52 31.43	2.2008	25 1 24.0	5.977
4	15 14 38.07	1.9673	18 26 48.2	10.458	4	16 54 43.63	2.2057	25 7 19.1	5.858
5	15 16 36.25	1.9719	18 37 13.5	10.385	5	16 56 56.11	2.2104	25 13 7.0	5.739
6	15 18 34.70	1.9765	18 47 34.4	10.311	6	16 59 8.88	2.2152	25 18 47.8	5.620
7	15 20 33.43	1.9812	18 57 50.8	10.236	7	17 1 21.94	2.2200	25 24 21.4	5.499
8	15 22 32.44	1.9859	19 8 2.7	10.160	8	17 3 35.28	2.2248	25 29 47.7	5.377
9	15 24 31.74	1.9906	19 18 10.0	10.083	9	17 5 48.91	2.2295	25 35 6.6	5.254
10	15 26 31.32	1.9953	19 28 12.6	10.005	10	17 8 2.82	2.2341	25 40 18.1	5.130
11	15 28 31.18	2.0001	19 38 10.6	9.927	11	17 10 17.00	2.2386	25 45 22.2	5.006
12	15 30 31.33	2.0049	19 48 3.8	9.847	12	17 12 31.45	2.2432	25 50 18.8	4.880
13	15 32 31.77	2.0097	19 57 52.2	9.766	13	17 14 46.18	2.2477	25 55 7.8	4.754
14	15 34 32.50	2.0146	20 7 35.7	9.683	14	17 17 1.18	2.2522	25 59 49.2	4.627
15	15 36 33.52	2.0195	20 17 14.2	9.600	15	17 19 16.45	2.2567	26 4 23.0	4.499
16	15 38 34.84	2.0244	20 26 47.7	9.517	16	17 21 31.98	2.2611	26 8 49.1	4.370
17	15 40 36.45	2.0293	20 36 16.2	9.432	17	17 23 47.78	2.2655	26 13 7.4	4.240
18	15 42 38.36	2.0343	20 45 39.6	9.347	18	17 26 3.84	2.2698	26 17 17.9	4.110
19	15 44 40.57	2.0392	20 54 57.8	9.260	19	17 28 20.15	2.2740	26 21 20.6	3.979
20	15 46 43.07	2.0442	21 4 10.8	9.172	20	17 30 36.72	2.2782	26 25 15.4	3.847
21	15 48 45.87	2.0492	21 13 18.5	9.084	21	17 32 53.54	2.2823	26 29 2.2	3.713
22	15 50 48.97	2.0542	21 22 20.9	8.995	22	17 35 10.60	2.2863	26 32 41.0	3.579
23	15 52 52.38	2.0593	21 31 17.9	8.904	23	17 37 27.90	2.2904	26 36 11.7	3.444
24	15 54 56.09	2.0643	S. 21° 40' 9.4"	8.812	24	17 39 45.45	2.2944	S. 26° 39' 34.3"	3.309

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	17 39 45.45	2.2944	S. 26 39 34.3	3.309	0	19 33 2.17	2.3935	S. 26 31 29.2	3.796
1	17 42 3.23	2.2963	26 42 48.8	3.174	1	19 35 25.78	2.3934	26 27 36.8	3.950
2	17 44 21.24	2.3092	26 45 55.2	3.037	2	19 37 49.38	2.3932	26 23 35.2	4.104
3	17 46 39.49	2.3060	26 48 53.3	2.899	3	19 40 12.97	2.3930	26 19 24.3	4.258
4	17 48 57.96	2.3096	26 51 43.1	2.761	4	19 42 36.54	2.3928	26 15 4.2	4.412
5	17 51 16.64	2.3132	26 54 24.6	2.622	5	19 45 0.10	2.3925	26 10 34.9	4.565
6	17 53 35.54	2.3167	26 56 57.8	2.483	6	19 47 23.64	2.3921	26 5 56.4	4.718
7	17 55 54.65	2.3202	26 59 22.6	2.343	7	19 49 47.15	2.3915	26 1 8.7	4.872
8	17 58 13.97	2.3237	27 1 38.9	2.202	8	19 52 10.62	2.3908	25 56 11.8	5.025
9	18 0 33.50	2.3271	27 3 46.8	2.061	9	19 54 34.05	2.3901	25 51 5.7	5.177
10	18 2 53.22	2.3304	27 5 46.2	1.918	10	19 56 57.44	2.3894	25 45 50.5	5.330
11	18 5 13.14	2.3336	27 7 37.0	1.775	11	19 59 20.78	2.3887	25 40 26.1	5.483
12	18 7 33.25	2.3367	27 9 19.2	1.632	12	20 1 44.08	2.3878	25 34 52.5	5.636
13	18 9 53.54	2.3398	27 10 52.8	1.488	13	20 4 7.32	2.3868	25 29 9.8	5.787
14	18 12 14.02	2.3428	27 12 17.7	1.343	14	20 6 30.50	2.3857	25 23 18.1	5.938
15	18 14 34.68	2.3457	27 13 34.0	1.198	15	20 8 53.61	2.3846	25 17 17.3	6.089
16	18 16 55.51	2.3485	27 14 41.5	1.053	16	20 11 16.65	2.3834	25 11 7.4	6.240
17	18 19 16.50	2.3512	27 15 40.3	0.907	17	20 13 39.62	2.3822	25 4 48.5	6.391
18	18 21 37.65	2.3538	27 16 30.3	0.760	18	20 16 2.52	2.3809	24 58 20.5	6.542
19	18 23 58.96	2.3564	27 17 11.5	0.612	19	20 18 25.33	2.3795	24 51 43.5	6.691
20	18 26 20.42	2.3589	27 17 43.8	0.464	20	20 20 48.06	2.3781	24 44 57.6	6.840
21	18 28 42.03	2.3614	27 18 7.2	0.316	21	20 23 10.71	2.3767	24 38 2.7	6.989
22	18 31 3.79	2.3638	27 18 21.7	0.167	22	20 25 33.27	2.3752	24 30 58.9	7.137
23	18 33 25.69	2.3661	S. 27 18 27.3	- 0.019	23	20 27 55.73	2.3735	S. 24 23 46.2	7.285
MONDAY 18.					WEDNESDAY 20.				
0	18 35 47.72	2.3683	S. 27 18 24.0	+ 0.130	0	20 30 18.09	2.3718	S. 24 16 24.7	7.433
1	18 38 9.88	2.3703	27 18 11.7	0.280	1	20 32 40.35	2.3701	24 8 54.3	7.580
2	18 40 32.16	2.3722	27 17 50.4	0.431	2	20 35 2.51	2.3684	24 1 15.1	7.726
3	18 42 54.55	2.3741	27 17 20.0	0.582	3	20 37 24.56	2.3666	23 53 27.2	7.872
4	18 45 17.05	2.3758	27 16 40.6	0.733	4	20 39 46.50	2.3647	23 45 30.5	8.017
5	18 47 39.65	2.3775	27 15 52.1	0.884	5	20 42 8.33	2.3629	23 37 25.1	8.162
6	18 50 2.35	2.3792	27 14 54.5	1.036	6	20 44 30.05	2.3610	23 29 11.0	8.307
7	18 52 25.15	2.3807	27 13 47.8	1.187	7	20 46 51.65	2.3589	23 20 48.3	8.450
8	18 54 48.04	2.3822	27 12 32.0	1.339	8	20 49 13.12	2.3568	23 12 17.0	8.593
9	18 57 11.02	2.3836	27 11 7.1	1.492	9	20 51 34.47	2.3548	23 3 37.2	8.735
10	18 59 34.07	2.3849	27 9 33.0	1.644	10	20 53 55.70	2.3527	22 54 48.8	8.877
11	19 1 57.20	2.3861	27 7 49.8	1.797	11	20 56 16.80	2.3506	22 45 52.0	9.018
12	19 4 20.40	2.3872	27 5 57.4	1.950	12	20 58 37.77	2.3484	22 36 46.7	9.158
13	19 6 43.66	2.3882	27 3 55.8	2.103	13	21 0 58.61	2.3462	22 27 33.0	9.298
14	19 9 6.98	2.3891	27 1 45.0	2.257	14	21 3 19.32	2.3440	22 18 11.0	9.437
15	19 11 30.35	2.3899	26 59 25.0	2.411	15	21 5 39.89	2.3417	22 8 40.6	9.575
16	19 13 53.77	2.3907	26 56 55.7	2.565	16	21 8 0.32	2.3394	21 59 2.0	9.719
17	19 16 17.23	2.3913	26 54 17.2	2.719	17	21 10 20.62	2.3371	21 49 15.2	9.848
18	19 18 40.72	2.3918	26 51 29.5	2.873	18	21 12 40.78	2.3348	21 39 20.2	9.984
19	19 21 4.24	2.3923	26 48 32.5	3.027	19	21 15 0.80	2.3324	21 29 17.1	10.119
20	19 23 27.79	2.3927	26 45 26.3	3.180	20	21 17 20.67	2.3300	21 19 5.9	10.253
21	19 25 51.37	2.3931	26 42 10.9	3.334	21	21 19 40.40	2.3277	21 8 46.7	10.387
22	19 28 14.96	2.3933	26 38 46.2	3.488	22	21 21 59.90	2.3253	20 58 19.5	10.519
23	19 30 38.56	2.3934	26 35 12.3	3.642	23	21 24 19.43	2.3228	20 47 44.4	10.651
24	19 33 2.17	2.3935	S. 26 31 29.2	3.796	24	21 26 38.73	2.3204	S. 20 37 1.4	10.783

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	^h 21 ^m 26 ^s 38.73	2.3204	S. 20° 37' 14"	10.782	0	^h 23 ^m 15 ^s 25.64	2.2237	S. 9° 48' 54.1"	15.757
1	21 28 57.88	2.3179	20 26 10.6	10.912	1	23 17 39.03	2.2227	9 33 6.5	15.898
2	21 31 16.88	2.3155	20 15 12.0	11.041	2	23 19 52.37	2.2218	9 17 14.7	15.898
3	21 33 35.74	2.3131	20 4 5.7	11.169	3	23 22 5.65	2.2209	9 1 18.7	15.967
4	21 35 54.45	2.3106	19 52 51.7	11.296	4	23 24 18.88	2.2201	8 45 18.7	16.033
5	21 38 13.01	2.3082	19 41 30.2	11.421	5	23 26 32.06	2.2193	8 29 14.7	16.099
6	21 40 31.43	2.3057	19 30 1.2	11.546	6	23 28 45.19	2.2185	8 13 6.8	16.169
7	21 42 49.70	2.3032	19 18 24.7	11.671	7	23 30 58.28	2.2179	7 56 55.2	16.224
8	21 45 7.82	2.3007	19 6 40.7	11.794	8	23 33 11.34	2.2174	7 40 39.9	16.285
9	21 47 25.79	2.2983	18 54 49.4	11.916	9	23 35 24.37	2.2169	7 24 21.0	16.344
10	21 49 43.62	2.2959	18 42 50.8	12.037	10	23 37 37.37	2.2165	7 7 58.6	16.401
11	21 52 1.30	2.2934	18 30 44.9	12.158	11	23 39 50.35	2.2162	6 51 32.9	16.455
12	21 54 18.83	2.2910	18 18 31.8	12.277	12	23 42 3.31	2.2159	6 35 4.0	16.508
13	21 56 36.22	2.2886	18 6 11.6	12.395	13	23 44 16.26	2.2156	6 18 31.9	16.561
14	21 58 53.47	2.2862	17 53 44.4	12.512	14	23 46 29.19	2.2154	6 1 56.6	16.613
15	22 1 10.57	2.2838	17 41 10.2	12.627	15	23 48 42.11	2.2153	5 45 18.3	16.669
16	22 3 27.53	2.2815	17 28 29.1	12.742	16	23 50 55.03	2.2153	5 28 37.1	16.709
17	22 5 44.35	2.2791	17 15 41.1	12.856	17	23 53 7.95	2.2154	5 11 53.2	16.754
18	22 8 1.02	2.2768	17 2 46.4	12.968	18	23 55 20.88	2.2156	4 55 6.6	16.798
19	22 10 17.56	2.2745	16 49 45.0	13.079	19	23 57 33.82	2.2158	4 38 17.4	16.840
20	22 12 33.96	2.2722	16 36 36.9	13.191	20	23 59 46.77	2.2160	4 21 25.8	16.880
21	22 14 50.22	2.2699	16 23 22.1	13.301	21	0 1 59.74	2.2163	4 4 31.8	16.919
22	22 17 6.35	2.2677	16 10 0.8	13.408	22	0 4 12.73	2.2167	3 47 35.5	16.956
23	22 19 22.35	2.2655	S. 15° 56' 33.2"	13.513	23	0 6 25.75	2.2172	S. 3° 30' 37.1"	16.991
FRIDAY 22.					SUNDAY 24.				
0	22 21 38.21	2.2633	S. 15° 42' 59.3"	13.618	0	0 8 38.80	2.2178	S. 3° 13' 36.6"	17.024
1	22 23 53.94	2.2612	15 29 19.1	13.723	1	0 10 51.89	2.2185	2 56 34.2	17.055
2	22 26 9.55	2.2592	15 15 32.6	13.827	2	0 13 5.02	2.2192	2 39 30.0	17.085
3	22 28 25.04	2.2571	15 1 39.9	13.928	3	0 15 18.19	2.2199	2 22 24.0	17.113
4	22 30 40.40	2.2550	14 47 41.2	14.028	4	0 17 31.41	2.2206	2 5 16.4	17.139
5	22 32 55.64	2.2530	14 33 36.5	14.128	5	0 19 44.69	2.2218	1 48 7.3	17.162
6	22 35 10.76	2.2510	14 19 25.8	14.227	6	0 21 58.03	2.2229	1 30 56.9	17.184
7	22 37 25.76	2.2491	14 5 9.3	14.323	7	0 24 11.44	2.2240	1 13 45.2	17.205
8	22 39 40.65	2.2472	13 50 47.1	14.418	8	0 26 24.91	2.2251	0 56 32.3	17.224
9	22 41 55.43	2.2454	13 36 19.2	14.512	9	0 28 38.45	2.2263	0 39 18.3	17.241
10	22 44 10.10	2.2436	13 21 45.7	14.604	10	0 30 52.07	2.2277	0 22 3.4	17.255
11	22 46 24.66	2.2419	13 7 6.7	14.696	11	0 33 5.77	2.2291	S. 0° 4' 47.7"	17.268
12	22 48 39.12	2.2402	12 52 22.2	14.787	12	0 35 19.56	2.2306	N. 0° 12' 28.8"	17.280
13	22 50 53.48	2.2385	12 37 32.3	14.875	13	0 37 33.44	2.2322	0 29 45.9	17.288
14	22 53 7.74	2.2368	12 22 37.2	14.962	14	0 39 47.42	2.2338	0 47 3.4	17.295
15	22 55 21.90	2.2352	12 7 36.0	15.048	15	0 42 1.49	2.2354	1 4 21.3	17.301
16	22 57 35.97	2.2338	11 52 31.5	15.133	16	0 44 15.67	2.2372	1 21 39.5	17.304
17	22 59 49.96	2.2324	11 37 21.0	15.216	17	0 46 29.96	2.2391	1 38 57.8	17.305
18	23 2 3.86	2.2309	11 22 5.6	15.298	18	0 48 44.36	2.2410	1 56 16.1	17.304
19	23 4 17.67	2.2296	11 6 45.3	15.378	19	0 50 58.88	2.2430	2 13 34.3	17.302
20	23 6 31.41	2.2283	10 51 20.2	15.457	20	0 53 13.52	2.2451	2 30 52.3	17.297
21	23 8 45.07	2.2271	10 35 50.5	15.533	21	0 55 28.29	2.2473	2 48 10.0	17.291
22	23 10 58.66	2.2259	10 20 16.2	15.609	22	0 57 43.19	2.2495	3 5 27.2	17.282
23	23 13 12.18	2.2248	10 4 37.4	15.684	23	0 59 58.23	2.2518	3 22 43.8	17.271
24	23 15 25.64	2.2237	S. 9° 48' 54.1"	15.757	24	1 2 13.41	2.2542	N. 3° 39' 59.7"	17.258

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	1 2 13.41	2.2542	N. 3 39 59.7	17.258	0	2 54 23.62	2.4387	N. 16 34 11.4	14.193
1	1 4 28.73	2.2566	3 57 14.8	17.243	1	2 56 50.09	2.4435	16 48 19.6	14.078
2	1 6 44.20	2.2592	4 14 28.9	17.227	2	2 59 16.84	2.4482	17 2 20.8	13.962
3	1 8 59.83	2.2618	4 31 42.0	17.208	3	3 1 43.87	2.4529	17 16 15.0	13.843
4	1 11 15.62	2.2645	4 48 53.9	17.187	4	3 4 11.19	2.4577	17 30 2.0	13.722
5	1 13 31.57	2.2672	5 6 4.5	17.164	5	3 6 38.79	2.4624	17 43 41.7	13.600
6	1 15 47.68	2.2699	5 23 13.6	17.139	6	3 9 6.68	2.4672	17 57 14.0	13.476
7	1 18 3.96	2.2726	5 40 21.2	17.112	7	3 11 34.85	2.4719	18 10 38.8	13.350
8	1 20 20.42	2.2759	5 57 27.1	17.083	8	3 14 3.30	2.4766	18 23 56.0	13.222
9	1 22 37.07	2.2790	6 14 31.2	17.052	9	3 16 32.04	2.4813	18 37 5.5	13.092
10	1 24 53.90	2.2820	6 31 33.3	17.018	10	3 19 1.06	2.4859	18 50 7.1	12.960
11	1 27 10.91	2.2851	6 48 33.4	16.983	11	3 21 30.35	2.4905	19 3 0.7	12.827
12	1 29 28.11	2.2883	7 5 31.3	16.946	12	3 23 59.92	2.4952	19 15 46.3	12.692
13	1 31 45.51	2.2916	7 22 26.9	16.906	13	3 26 29.77	2.4998	19 28 23.7	12.554
14	1 34 3.11	2.2950	7 39 20.0	16.864	14	3 28 59.89	2.5043	19 40 52.8	12.416
15	1 36 20.91	2.2984	7 56 10.6	16.821	15	3 31 30.29	2.5089	19 53 13.6	12.276
16	1 38 38.92	2.3019	8 12 58.5	16.775	16	3 34 0.96	2.5134	20 5 25.9	12.133
17	1 40 57.14	2.3055	8 29 43.6	16.727	17	3 36 31.89	2.5178	20 17 29.6	11.989
18	1 43 15.58	2.3091	8 46 25.7	16.677	18	3 39 3.09	2.5222	20 29 24.6	11.843
19	1 45 34.23	2.3128	9 3 4.8	16.625	19	3 41 34.55	2.5265	20 41 10.8	11.697
20	1 47 53.11	2.3165	9 19 40.7	16.570	20	3 44 6.27	2.5308	20 52 48.2	11.548
21	1 50 12.21	2.3203	9 36 13.2	16.513	21	3 46 38.25	2.5351	21 4 16.6	11.397
22	1 52 31.54	2.3241	9 52 42.3	16.455	22	3 49 10.48	2.5393	21 15 35.9	11.245
23	1 54 51.10	2.3280	N. 10 9 7.8	16.394	23	3 51 42.96	2.5434	N. 21 26 46.0	11.092
TUESDAY 26.					THURSDAY 28.				
0	1 57 10.90	2.3320	N. 10 25 29.6	16.332	0	3 54 15.69	2.5475	N. 21 37 46.9	10.937
1	1 59 30.94	2.3360	10 41 47.6	16.267	1	3 56 48.66	2.5515	21 48 38.5	10.781
2	2 1 51.22	2.3400	10 58 1.6	16.199	2	3 59 21.87	2.5555	21 59 20.6	10.622
3	2 4 11.74	2.3441	11 14 11.5	16.130	3	4 1 55.32	2.5594	22 9 53.2	10.463
4	2 6 32.51	2.3483	11 30 17.2	16.059	4	4 4 29.00	2.5633	22 20 16.2	10.302
5	2 8 53.53	2.3525	11 46 18.6	15.986	5	4 7 2.90	2.5669	22 30 29.5	10.140
6	2 11 14.81	2.3567	12 2 15.5	15.910	6	4 9 37.02	2.5705	22 40 33.1	9.977
7	2 13 36.34	2.3610	12 18 7.8	15.832	7	4 12 11.36	2.5741	22 50 26.8	9.812
8	2 15 58.13	2.3653	12 33 55.4	15.752	8	4 14 45.91	2.5776	23 0 10.6	9.647
9	2 18 20.18	2.3697	12 49 38.1	15.670	9	4 17 20.67	2.5810	23 9 44.5	9.481
10	2 20 42.50	2.3742	13 5 15.8	15.586	10	4 19 55.63	2.5843	23 19 8.3	9.312
11	2 23 5.08	2.3786	13 20 48.4	15.500	11	4 22 30.78	2.5875	23 28 21.0	9.142
12	2 25 27.93	2.3831	13 36 15.8	15.412	12	4 25 6.13	2.5907	23 37 25.4	8.973
13	2 27 51.05	2.3876	13 51 37.8	15.321	13	4 27 41.66	2.5938	23 46 18.6	8.801
14	2 30 14.44	2.3922	14 6 54.3	15.229	14	4 30 17.36	2.5965	23 55 1.5	8.627
15	2 32 38.11	2.3967	14 22 5.3	15.136	15	4 32 53.24	2.5993	24 3 33.9	8.453
16	2 35 2.05	2.4013	14 37 10.6	15.039	16	4 35 29.28	2.6020	24 11 55.0	8.279
17	2 37 26.27	2.4059	14 52 10.0	14.939	17	4 38 5.48	2.6046	24 20 7.4	8.104
18	2 39 50.76	2.4105	15 7 3.3	14.838	18	4 40 41.83	2.6071	24 28 8.4	7.927
19	2 42 15.53	2.4152	15 21 50.5	14.736	19	4 43 18.33	2.6094	24 35 58.7	7.749
20	2 44 40.58	2.4199	15 36 31.6	14.632	20	4 45 54.96	2.6116	24 43 38.3	7.571
21	2 47 5.92	2.4246	15 51 6.4	14.526	21	4 48 31.72	2.6137	24 51 7.3	7.393
22	2 49 31.54	2.4293	16 5 34.7	14.417	22	4 51 8.60	2.6157	24 58 25.5	7.213
23	2 51 57.44	2.4340	16 19 56.4	14.306	23	4 53 45.60	2.6176	25 5 32.8	7.032
24	2 54 23.62	2.4387	N. 16 34 11.4	14.193	24	4 56 22.71	2.6193	N. 25 12 29.3	6.851

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 29.					SUNDAY, MAY 1.				
0	4 ^h 56 ^m 22.71 ^s	2.6193	N. 25° 12' 29.3"	6.851	0	7 ^h 1 ^m 23.71 ^s	2.5343	N. 27° 9' 20.9"	1.868
1	4 58 59.92	2.6209	25 19 14.9	6.669	PHASES OF THE MOON.				
2	5 1 37.22	2.6224	25 25 49.6	6.486					
3	5 4 14.61	2.6237	25 32 13.3	6.303					
4	5 6 52.07	2.6249	25 38 26.0	6.120					
5	5 9 29.60	2.6260	25 44 27.7	5.937					
6	5 12 7.19	2.6269	25 50 18.4	5.752					
7	5 14 44.83	2.6277	25 55 58.0	5.567					
8	5 17 22.52	2.6284	26 1 26.5	5.382					
9	5 20 0.24	2.6290	26 6 43.9	5.197					
10	5 22 37.99	2.6292	26 11 50.1	5.011					
11	5 25 15.75	2.6294	26 16 45.2	4.826	☾ First Quarter . April 3 18 21.2 ○ Full Moon 11 18 26.0 ☾ Last Quarter 19 18 0.4 ● New Moon 26 9 46.5				
12	5 27 53.52	2.6295	26 21 29.2	4.640					
13	5 30 31.29	2.6294	26 26 2.0	4.453					
14	5 33 9.05	2.6292	26 30 23.6	4.267					
15	5 35 46.80	2.6289	26 34 34.0	4.080	☾ Apogee April 11 11.4 ☾ Perigee 25 21.2				
16	5 38 24.52	2.6283	26 38 33.2	3.893					
17	5 41 2.20	2.6276	26 42 21.2	3.707					
18	5 43 39.83	2.6267	26 45 58.0	3.520					
19	5 46 17.41	2.6258	26 49 23.6	3.334					
20	5 48 54.93	2.6247	26 52 38.1	3.148					
21	5 51 32.37	2.6234	26 55 41.4	2.962					
22	5 54 9.73	2.6220	26 58 33.6	2.777					
23	5 56 47.01	2.6204	N. 27° 1' 14.6"	2.591					
SATURDAY 30.									
0	5 59 24.18	2.6186	N. 27° 3' 44.5"	2.406					
1	6 2 1.24	2.6167	27 6 3.3	2.221					
2	6 4 38.19	2.6147	27 8 11.0	2.036					
3	6 7 15.01	2.6125	27 10 7.6	1.851					
4	6 9 51.69	2.6102	27 11 53.2	1.667					
5	6 12 28.23	2.6078	27 13 27.7	1.483					
6	6 15 4.62	2.6052	27 14 51.2	1.301					
7	6 17 40.85	2.6023	27 16 3.8	1.119					
8	6 20 16.90	2.5993	27 17 5.4	0.937					
9	6 22 52.77	2.5962	27 17 56.2	0.757					
10	6 25 28.45	2.5931	27 18 36.2	0.576					
11	6 28 3.94	2.5897	27 19 5.3	0.395					
12	6 30 39.22	2.5862	27 19 23.6	0.216					
13	6 33 14.28	2.5826	27 19 31.2	+ 0.038					
14	6 35 49.13	2.5789	27 19 28.2	- 0.139					
15	6 38 23.75	2.5750	27 19 14.5	0.316					
16	6 40 58.13	2.5710	27 18 50.2	0.492					
17	6 43 32.27	2.5668	27 18 15.4	0.668					
18	6 46 6.15	2.5625	27 17 30.0	0.843					
19	6 48 39.77	2.5581	27 16 34.2	1.017					
20	6 51 13.12	2.5536	27 15 28.0	1.188					
21	6 53 46.20	2.5490	27 14 11.6	1.359					
22	6 56 19.00	2.5442	27 12 44.9	1.530					
23	6 58 51.51	2.5392	27 11 8.0	1.700					
24	7 1 23.71	2.5342	N. 27° 9' 20.9"	1.868					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
1	SUN	W.	54° 55' 41"	2576	56° 35' 9"	2594	58° 14' 12"	2619	59° 52' 51"	2630
	POLLUX	E.	44 43 10	2969	42 56 15	2979	41 9 45	2997	39 23 41	3014
	REGULUS	E.	81 11 9	2271	79 24 27	2288	77 38 10	2306	75 52 19	2323
2	SUN	W.	67 59 52	2793	69 36 1	2749	71 11 45	2761	72 47 4	2779
	VENUS	W.	24 29 51	2766	26 5 3	2785	27 39 51	2803	29 14 15	2822
	POLLUX	E.	30 39 51	2406	28 56 25	2425	27 13 26	2444	25 30 54	2463
	REGULUS	E.	67 9 28	2413	65 26 12	2431	63 43 21	2449	62 0 56	2467
	SATURN	E.	94 11 2	2375	92 26 51	2399	90 43 5	2410	88 59 44	2427
3	SUN	W.	80 37 35	2873	82 10 29	2891	83 43 0	2909	85 15 8	2926
	VENUS	W.	37 0 14	2914	38 32 15	2939	40 3 53	2950	41 35 9	2968
	ALDEBARAN	W.	28 5 1	2892	29 41 52	2893	31 18 41	2897	32 55 25	2903
	REGULUS	E.	53 35 15	2559	51 55 23	2576	50 15 55	2594	48 36 52	2612
	SATURN	E.	80 29 10	2514	78 48 16	2531	77 7 46	2548	75 27 39	2564
	SPICA	E.	107 37 46	2548	105 57 40	2565	104 17 57	2588	102 38 37	2599
4	SUN	W.	92 50 16	3019	94 20 14	3039	95 49 51	3045	97 19 8	3060
	VENUS	W.	49 5 58	3054	50 35 4	3069	52 3 51	3086	53 32 18	3102
	ALDEBARAN	W.	40 56 39	2747	42 32 17	2756	44 7 42	2767	45 42 53	2779
	REGULUS	E.	40 27 41	2701	38 51 3	2719	37 14 48	2737	35 38 57	2755
	SATURN	E.	67 12 40	2644	65 34 45	2659	63 57 10	2675	62 19 56	2689
	SPICA	E.	94 27 29	2678	92 50 19	2693	91 13 30	2708	89 37 1	2722
5	SUN	W.	104 40 52	3135	106 8 19	3148	107 35 30	3163	109 2 24	3176
	VENUS	W.	60 49 50	3176	62 16 28	3190	63 42 49	3204	65 8 54	3217
	ALDEBARAN	W.	53 35 9	2833	55 8 54	2845	56 42 24	2855	58 15 40	2866
	SATURN	E.	54 18 30	2758	52 43 7	2779	51 8 2	2794	49 33 13	2796
	SPICA	E.	81 39 19	2792	80 4 41	2805	78 30 19	2818	76 56 14	2830
6	SUN	W.	116 13 5	3296	117 38 31	3248	119 3 43	3259	120 28 42	3270
	VENUS	W.	72 15 33	3277	73 40 11	3288	75 4 36	3299	76 28 49	3310
	ALDEBARAN	W.	65 58 44	2916	67 30 43	2925	69 2 30	2934	70 34 6	2943
	POLLUX	W.	21 41 17	2891	23 13 47	2899	24 46 7	2908	26 18 16	2916
	SATURN	E.	41 43 1	2853	40 9 42	2864	38 36 37	2874	37 3 45	2884
	SPICA	E.	69 9 42	2887	67 37 7	2898	66 4 46	2909	64 32 38	2918
7	ALDEBARAN	W.	78 9 21	2984	79 39 54	2991	81 10 18	2998	82 40 33	3005
	POLLUX	W.	33 56 27	2954	35 27 37	2962	36 58 37	2969	38 29 29	2976
	SATURN	E.	29 22 30	2931	27 50 50	2939	26 19 20	2947	24 48 1	2955
	SPICA	E.	56 55 0	2965	55 24 3	2973	53 53 16	2981	52 22 39	2989
	ANTARES	E.	102 45 57	2952	101 14 44	2959	99 43 40	2967	98 12 46	2974
8	ALDEBARAN	W.	90 9 44	3036	91 39 12	3042	93 8 33	3047	94 37 47	3052
	POLLUX	W.	46 1 47	3005	47 31 53	3011	49 1 52	3016	50 31 45	3020
	SPICA	E.	44 51 57	3025	43 22 15	3032	41 52 42	3039	40 23 17	3046
	ANTARES	E.	90 40 22	3005	89 10 16	3011	87 40 17	3016	86 10 24	3021
9	POLLUX	W.	57 59 50	3040	59 29 13	3044	60 58 31	3047	62 27 46	3050
	REGULUS	W.	21 58 40	3136	23 26 6	3128	24 53 42	3122	26 21 25	3117
	SPICA	E.	32 58 17	3079	31 29 42	3086	30 1 15	3094	28 32 58	3101
	ANTARES	E.	78 42 25	3042	77 13 4	3046	75 43 48	3049	74 14 36	3052

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN W.	61° 31' 5"	2649	63° 8' 54"	2666	64° 46' 19"	2686	66° 23' 18"	2704
	Pollux E.	37 38 2	2333	35 52 50	2350	34 8 4	2368	32 23 44	2387
	Regulus E.	74 6 53	2341	72 21 53	2359	70 37 19	2377	68 53 11	2394
2	SUN W.	74 21 59	2798	75 56 29	2817	77 30 35	2835	79 4 17	2854
	VENUS W.	30 48 14	2841	32 21 49	2859	33 55 1	2877	35 27 49	2895
	Pollux E.	23 48 49	2483	22 7 12	2504	20 26 4	2525	18 45 25	2545
	Regulus E.	60 18 57	2485	58 37 23	2504	56 56 15	2522	55 15 32	2540
	SATURN E.	87 16 48	2445	85 34 17	2462	83 52 10	2480	82 10 28	2497
3	SUN W.	86 46 54	2944	88 18 17	2962	89 49 18	2978	91 19 58	2996
	VENUS W.	43 6 2	2985	44 36 33	3002	46 6 43	3020	47 36 31	3037
	Aldebaran W.	34 32 1	2710	36 8 28	2718	37 44 44	2727	39 20 48	2737
	Regulus E.	46 58 14	2630	45 20 0	2648	43 42 10	2666	42 4 44	2683
	SATURN E.	73 47 55	2580	72 8 33	2597	70 29 34	2612	68 50 56	2629
	Spica E.	100 59 40	2615	99 21 5	2630	97 42 51	2646	96 4 59	2663
4	SUN W.	98 48 6	3076	100 16 45	3091	101 45 5	3106	103 13 7	3120
	VENUS W.	55 0 25	3118	56 28 13	3133	57 55 43	3148	59 22 55	3162
	Aldebaran W.	47 17 49	2789	48 52 31	2801	50 26 58	2811	52 1 11	2823
	Regulus E.	34 3 30	2773	32 28 27	2792	30 53 49	2811	29 19 35	2830
	SATURN E.	60 43 1	2704	59 6 26	2717	57 30 9	2731	55 54 10	2745
	Spica E.	88 0 51	2737	86 25 0	2751	84 49 28	2765	83 14 14	2779
5	SUN W.	110 29 2	3188	111 55 25	3201	113 21 33	3214	114 47 26	3225
	VENUS W.	66 34 43	3230	68 0 17	3242	69 25 37	3254	70 50 42	3266
	Aldebaran W.	59 48 43	2876	61 21 32	2886	62 54 9	2896	64 26 33	2906
	SATURN E.	47 58 40	2808	46 24 23	2820	44 50 21	2831	43 16 34	2842
	Spica E.	75 22 25	2842	73 48 52	2854	72 15 34	2866	70 42 31	2876
6	SUN W.	121 53 29	3280	123 18 4	3289	124 42 28	3300	126 6 40	3308
	VENUS W.	77 52 49	3319	79 16 38	3329	80 40 16	3338	82 3 43	3348
	Aldebaran W.	72 5 30	2952	73 36 43	2960	75 7 46	2969	76 38 38	2976
	Pollux W.	27 50 14	2924	29 22 2	2932	30 53 40	2940	32 25 8	2947
	SATURN E.	35 31 6	2894	33 58 40	2903	32 26 25	2912	30 54 22	2921
	Spica E.	63 0 42	2928	61 28 59	2938	59 57 28	2946	58 26 8	2956
7	Aldebaran W.	84 10 39	3012	85 40 37	3018	87 10 27	3025	88 40 9	3030
	Pollux W.	40 0 12	2982	41 30 47	2989	43 1 14	2994	44 31 34	3000
	SATURN E.	23 16 52	2963	21 45 53	2972	20 15 5	2980	18 44 27	2989
	Spica E.	50 52 12	2996	49 21 54	3004	47 51 46	3011	46 21 47	3018
	Antares E.	96 42 1	2981	95 11 24	2988	93 40 56	2993	92 10 35	3000
8	Aldebaran W.	96 6 55	3057	97 35 57	3061	99 4 54	3066	100 33 45	3070
	Pollux W.	52 1 33	3025	53 31 15	3030	55 0 51	3033	56 30 23	3037
	Spica E.	38 54 1	3052	37 24 53	3059	35 55 53	3065	34 27 1	3072
	Antares E.	84 40 37	3026	83 10 56	3030	81 41 21	3034	80 11 51	3038
9	Pollux W.	63 56 57	3052	65 26 5	3056	66 55 9	3057	68 24 11	3060
	Regulus W.	27 49 14	3113	29 17 8	3110	30 45 5	3108	32 13 5	3105
	Spica E.	27 4 50	3110	25 36 53	3120	24 9 8	3131	22 41 36	3143
	Antares E.	72 45 27	3055	71 16 22	3057	69 47 20	3060	68 18 22	3062

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	Pollux	W.	69° 53' 10"	3061	71° 22' 7"	3064	72° 51' 1"	3065	74° 19' 54"	3066
	Regulus	W.	33 41 8	3104	35 9 13	3103	36 37 19	3102	38 5 26	3101
	Antares	E.	66 49 26	3065	65 20 33	3066	63 51 42	3069	62 22 54	3068
11	Pollux	W.	81 43 56	3071	83 12 41	3071	84 41 26	3071	86 10 11	3071
	Regulus	W.	45 26 23	3096	46 54 38	3095	48 22 54	3094	49 51 11	3093
	Antares	E.	54 59 15	3075	53 30 35	3076	52 1 56	3076	50 33 17	3077
	MARS	E.	92 58 21	3287	91 33 54	3287	90 9 27	3288	88 45 1	3287
12	Pollux	W.	93 34 0	3069	95 2 48	3068	96 31 37	3067	98 0 27	3065
	Regulus	W.	57 12 57	3087	58 41 23	3085	60 9 51	3083	61 38 21	3081
	SATURN	W.	30 42 55	3049	32 12 7	3048	33 41 20	3046	35 10 36	3045
	Antares	E.	43 10 7	3077	41 41 29	3076	40 12 50	3076	38 44 11	3075
	MARS	E.	81 42 43	3285	80 18 14	3283	78 53 43	3282	77 29 11	3281
	α Aquilæ	E.	93 9 36	3299	91 56 15	3298	90 42 51	3295	89 29 26	3294
13	Regulus	W.	69 1 28	3071	70 30 13	3068	71 59 2	3065	73 27 54	3062
	SATURN	W.	42 37 24	3035	44 6 53	3032	45 36 26	3030	47 6 2	3027
	MARS	E.	70 26 2	3271	69 1 17	3270	67 36 30	3267	66 11 40	3265
	α Aquilæ	E.	83 22 23	3292	82 9 5	3295	80 55 50	3291	79 42 40	3291
14	Regulus	W.	80 53 13	3045	82 22 30	3042	83 51 51	3037	85 21 18	3033
	SATURN	W.	54 34 57	3010	56 4 57	3007	57 35 1	3003	59 5 10	2998
	Spica	W.	26 55 56	3086	28 24 23	3077	29 53 1	3069	31 21 49	3060
	MARS	E.	59 6 39	3248	57 41 27	3245	56 16 11	3241	54 50 50	3237
	α Aquilæ	E.	73 38 34	3258	72 26 13	3269	71 14 3	3262	70 2 6	3258
	Fomalhaut	E.	102 8 51	3210	100 42 54	3205	99 16 51	3199	97 50 41	3193
15	Regulus	W.	92 49 56	3008	94 19 59	3003	95 50 8	2997	97 20 24	2991
	SATURN	W.	66 37 22	2974	68 8 7	2969	69 38 59	2962	71 9 59	2957
	Spica	W.	38 48 12	3093	40 17 56	3015	41 47 50	3009	43 17 52	3001
	MARS	E.	47 42 51	3214	46 16 58	3209	44 50 59	3204	43 24 54	3198
	α Aquilæ	E.	64 6 24	4092	62 56 15	4117	61 46 30	4143	60 37 10	4174
	Fomalhaut	E.	90 38 12	3166	89 11 22	3161	87 44 26	3155	86 17 23	3150
16	SATURN	W.	78 46 58	2992	80 18 49	2915	81 50 49	2907	83 22 59	2899
	Spica	W.	50 50 28	2961	52 21 30	2953	53 52 42	2944	55 24 5	2935
	MARS	E.	36 12 46	3168	34 45 59	3163	33 19 5	3157	31 52 4	3151
	α Aquilæ	E.	54 58 24	4386	53 52 32	4416	52 47 25	4471	51 43 7	4530
	Fomalhaut	E.	79 0 29	3192	77 32 46	3116	76 4 56	3110	74 36 59	3105
	α Pegasi	E.	99 1 55	3333	97 38 22	3328	96 14 37	3313	94 50 40	3302
	SUN	E.	133 40 38	3308	132 16 36	3300	130 52 24	3290	129 28 1	3282
17	SATURN	W.	91 6 32	2854	92 39 50	2844	94 13 21	2833	95 47 6	2823
	Spica	W.	63 3 56	2987	64 36 32	2976	66 9 21	2966	67 42 24	2955
	Fomalhaut	E.	67 15 37	3079	65 47 2	3073	64 18 20	3069	62 49 32	3064
	α Pegasi	E.	87 48 6	3256	86 23 3	3247	84 57 50	3238	83 32 26	3231
	SUN	E.	122 23 20	3231	120 57 47	3220	119 32 1	3209	118 6 2	3197
18	Spica	W.	75 31 15	2796	77 5 48	2784	78 40 37	2771	80 15 43	2757
	Antares	W.	29 37 22	2901	31 11 48	2787	32 46 33	2773	34 21 36	2760
	Fomalhaut	E.	55 24 19	3047	53 55 5	3046	52 25 49	3045	50 56 32	3046

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	Pollux	W.	75° 48' 45"	3067	77° 17' 35"	3069	78° 46' 23"	3069	80° 15' 10"	3070
	Regulus	W.	39 33 35	3100	41 1 45	3098	42 29 57	3098	43 58 9	3098
	Antares	E.	60 54 7	3071	59 25 22	3079	57 56 38	3073	56 27 56	3074
11	Pollux	W.	87 38 56	3071	89 7 41	3070	90 36 27	3070	92 5 13	3069
	Regulus	W.	51 19 29	3091	52 47 49	3091	54 16 10	3089	55 44 33	3088
	Antares	E.	49 4 39	3077	47 36 1	3077	46 7 23	3077	44 38 45	3077
	MARS	E.	87 20 34	3387	85 56 7	3387	84 31 40	3386	83 7 12	3385
12	Pollux	W.	99 29 19	3065	100 58 12	3064	102 27 8	3060	103 56 6	3059
	Regulus	W.	63 6 54	3079	64 35 29	3078	66 4 6	3075	67 32 46	3073
	SATURN	W.	36 39 53	3043	38 9 12	3041	39 38 34	3039	41 7 58	3038
	Antares	E.	37 15 31	3074	35 46 50	3074	34 18 9	3073	32 49 27	3072
	MARS	E.	76 4 37	3379	74 40 1	3378	73 15 24	3376	71 50 44	3374
	α Aquilæ	E.	88 16 0	3394	87 2 34	3395	85 49 9	3396	84 35 45	3398
13	Regulus	W.	74 56 50	3059	76 25 50	3056	77 54 53	3059	79 24 1	3049
	SATURN	W.	48 35 41	3094	50 5 24	3091	51 35 11	3018	53 5 2	3014
	MARS	E.	64 46 47	3361	63 21 50	3359	61 56 50	3355	60 31 46	3353
	α Aquilæ	E.	78 29 36	3391	77 16 38	3399	76 3 48	3397	74 51 6	3347
14	Regulus	W.	86 50 50	3098	88 20 28	3094	89 50 11	3019	91 20 0	3014
	SATURN	W.	60 35 25	3094	62 5 45	3090	63 36 11	3085	65 6 43	3079
	Spica	W.	32 50 47	3053	34 19 54	3045	35 49 11	3038	37 18 37	3030
	MARS	E.	53 25 25	3333	51 59 55	3328	50 34 19	3324	49 8 38	3319
	α Aquilæ	E.	68 50 24	4013	67 38 57	4030	66 27 47	4048	65 16 55	4070
	Fomalhaut	E.	96 24 24	3188	94 58 1	3183	93 31 31	3178	92 4 55	3172
15	Regulus	W.	98 50 48	3085	100 21 19	3078	101 51 59	3079	103 22 47	3065
	SATURN	W.	72 41 6	3050	74 12 21	3043	75 43 45	3037	77 15 17	3030
	Spica	W.	44 48 4	3093	46 18 25	3085	47 48 56	3077	49 19 37	3069
	MARS	E.	41 58 42	3199	40 32 23	3187	39 5 58	3181	37 39 26	3174
	α Aquilæ	E.	59 28 19	4305	58 19 58	4340	57 12 10	4379	56 4 58	4320
	Fomalhaut	E.	84 50 14	3144	83 22 58	3138	81 55 35	3133	80 28 5	3128
16	SATURN	W.	84 55 19	3091	86 27 50	3089	88 0 32	3073	89 33 26	3063
	Spica	W.	56 55 39	3096	58 27 25	3016	59 59 23	3007	61 31 33	3007
	MARS	E.	30 24 56	3145	28 57 41	3139	27 30 19	3133	26 2 50	3128
	α Aquilæ	E.	50 39 41	4595	49 37 12	4609	48 35 46	4747	47 35 26	4836
	Fomalhaut	E.	73 8 56	3100	71 40 46	3094	70 12 29	3089	68 44 6	3084
	α Pegasi	E.	93 26 31	3393	92 2 11	3383	90 37 40	3374	89 12 58	3365
	SUN	E.	128 3 28	3373	126 38 44	3369	125 13 48	3359	123 43 40	3342
17	SATURN	W.	97 21 4	3012	98 55 16	3001	100 29 43	2790	102 4 24	2778
	Spica	W.	69 15 40	3044	70 49 11	3039	72 22 57	2991	73 56 58	2988
	Fomalhaut	E.	61 20 38	3080	59 51 39	3056	58 22 36	3053	56 53 29	3051
	α Pegasi	E.	82 6 53	3392	80 41 10	3314	79 15 18	3308	77 49 18	3300
	SUN	E.	116 39 49	3184	115 13 21	3173	113 46 39	3160	112 19 42	3147
18	Spica	W.	81 51 7	3744	83 26 48	3731	85 2 47	3716	86 39 5	3702
	Antares	W.	35 56 57	3745	37 32 37	3730	39 8 37	3716	40 44 56	3701
	Fomalhaut	E.	49 27 16	3047	47 58 2	3050	46 28 51	3054	44 59 45	3050

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
18	α Pegasi E.	76° 23' 9"	3193	74° 56' 52"	3188	73° 30' 28"	3189	72° 3' 57"	3177
	JUPITER E.	89 45 25	2968	88 12 25	2855	86 39 8	2842	85 5 35	2828
	SUN E.	110 52 29	3133	109 25 0	3120	107 57 15	3106	106 29 13	3091
19	Spica W.	88 15 42	2988	89 52 38	2973	91 29 54	2958	93 7 30	2943
	Antares W.	42 21 34	2986	43 58 33	2971	45 35 52	2955	47 13 32	2940
	Fomalhaut E.	43 30 47	3069	42 1 59	3079	40 33 24	3093	39 5 6	3110
	α Pegasi E.	64 50 1	3159	63 23 3	3159	61 56 5	3159	60 29 7	3162
	JUPITER E.	77 13 21	2758	75 37 58	2744	74 2 16	2728	72 26 13	2713
	SUN E.	99 4 33	3016	97 34 40	3001	96 4 28	2984	94 33 55	2968
20	Antares W.	55 27 15	2559	57 7 7	2543	58 47 21	2526	60 27 58	2509
	α Pegasi E.	53 15 29	3196	51 49 15	3210	50 23 18	3227	48 57 41	3247
	JUPITER E.	64 20 46	2932	62 42 35	2916	61 4 2	2909	59 25 6	2892
	SUN E.	86 55 57	2882	85 23 15	2865	83 50 11	2847	82 16 44	2828
21	Antares W.	68 57 2	2434	70 40 3	2406	72 23 29	2389	74 7 20	2372
	MARS W.	25 40 36	2938	27 18 40	2914	28 57 16	2892	30 36 22	2870
	JUPITER E.	51 4 35	2497	49 23 17	2480	47 41 36	2463	45 59 31	2445
	SUN E.	74 23 33	2738	72 47 43	2719	71 11 28	2701	69 34 49	2682
22	Antares W.	82 52 42	2287	84 39 0	2270	86 25 43	2254	88 12 50	2239
	α Aquilæ W.	45 39 10	4333	46 45 32	4196	47 54 2	4071	49 4 32	3955
	MARS W.	38 59 0	2471	40 40 54	2453	42 23 14	2433	44 6 1	2416
	JUPITER E.	37 23 2	2262	35 38 33	2246	33 53 41	2231	32 8 26	2215
	SUN E.	61 25 23	2591	59 46 16	2574	58 6 45	2556	56 26 49	2539
23	α Aquilæ W.	55 23 16	3506	56 43 34	3435	58 5 11	3371	59 28 1	3310
	MARS W.	52 46 8	2332	54 31 21	2316	56 16 57	2302	58 2 54	2287
	SUN E.	48 1 20	2457	46 19 6	2442	44 36 31	2427	42 53 35	2413
24	MARS W.	66 57 46	2223	68 45 40	2212	70 33 50	2201	72 22 16	2192
	α Aquilæ W.	66 38 7	3073	68 6 50	3035	69 36 19	3002	71 6 29	2971
	SUN E.	34 14 4	2350	32 29 17	2339	30 44 14	2328	28 58 56	2319
27	SUN W.	8 22 56	2315	10 8 34	2317	11 54 8	2322	13 39 35	2329
	Pollux E.	65 52 3	2010	63 58 45	2017	62 5 38	2026	60 12 44	2035
	Regulus E.	102 17 17	2022	100 24 17	2030	98 31 29	2038	96 38 54	2046
28	SUN W.	22 23 42	2382	24 7 42	2394	25 51 24	2409	27 34 46	2424
	Pollux E.	50 52 5	2090	49 0 51	2103	47 9 56	2116	45 19 22	2130
	Regulus E.	87 19 43	2101	85 28 45	2114	83 38 7	2127	81 47 49	2141
29	SUN W.	36 6 11	2504	37 47 19	2522	39 28 2	2540	41 8 20	2558
	Pollux E.	36 12 10	2209	34 23 56	2227	32 36 8	2245	30 48 47	2262
	Regulus E.	72 41 53	2218	70 53 53	2235	69 6 18	2253	67 19 9	2270
	SATURN E.	98 8 3	2192	96 19 23	2208	94 31 7	2225	92 43 17	2242
30	SUN W.	49 23 25	2654	51 1 7	2673	52 38 23	2693	54 15 12	2713
	Aldebaran W.	23 24 2	2566	25 3 44	2557	26 43 38	2554	28 23 36	2554
	Regulus E.	58 30 2	2363	56 45 34	2382	55 1 34	2402	53 18 2	2422
	SATURN E.	83 50 34	2332	82 5 21	2350	80 20 35	2369	78 36 16	2387

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
18	α Pegasi E.	70 37 20	3172	69 10 37	3168	67 43 49	3164	66 16 57	3161
	JUPITER E.	83 31 44	2815	81 57 35	2801	80 23 9	2787	78 48 24	2773
	SUN E.	105 0 53	3078	103 32 16	3062	102 3 20	3047	100 34 6	3032
19	Spica W.	94 45 26	2628	96 23 43	2612	98 2 21	2596	99 41 21	2581
	Antares W.	48 51 33	2624	50 29 56	2608	52 8 40	2592	53 47 46	2575
	Fomalhaut E.	37 37 9	3133	36 9 39	3159	34 42 41	3192	33 16 22	3231
	α Pegasi E.	59 2 12	3164	57 35 20	3169	56 8 34	3176	54 41 56	3185
	JUPITER E.	70 49 50	2697	69 13 6	2681	67 36 1	2665	65 58 34	2649
	SUN E.	93 3 2	2951	91 31 48	2935	90 0 13	2917	88 28 16	2900
20	Antares W.	62 8 59	2492	63 50 24	2475	65 32 12	2458	67 14 25	2441
	α Pegasi E.	47 32 28	3272	46 7 44	3302	44 43 35	3337	43 20 6	3378
	JUPITER E.	57 45 46	2566	56 6 4	2548	54 25 58	2531	52 45 28	2515
	SUN E.	80 42 53	2811	79 8 39	2792	77 34 1	2774	75 58 59	2756
21	Antares W.	75 51 35	2355	77 36 15	2338	79 21 19	2321	81 6 48	2304
	MARS W.	32 15 58	2550	33 56 2	2530	35 36 34	2510	37 17 33	2490
	JUPITER E.	44 17 1	2429	42 34 7	2412	40 50 49	2395	39 7 7	2379
	SUN E.	67 57 45	2663	66 20 16	2646	64 42 23	2627	63 4 5	2610
22	Antares W.	90 0 20	2223	91 48 14	2206	93 36 32	2192	95 25 12	2176
	α Aquilæ W.	50 16 56	3851	51 31 6	3753	52 46 57	3664	54 4 22	3592
	MARS W.	45 49 13	2396	47 32 50	2381	49 16 52	2364	51 1 18	2348
	JUPITER E.	30 22 48	2300	28 36 48	2286	26 50 28	2272	25 3 48	2260
	SUN E.	54 46 30	2522	53 5 47	2505	51 24 41	2489	49 43 12	2472
23	α Aquilæ W.	60 52 1	3254	62 17 6	3204	63 43 11	3156	65 10 13	3113
	MARS W.	59 49 13	2272	61 35 53	2260	63 22 52	2247	65 10 10	2235
	SUN E.	41 10 19	2399	39 26 43	2386	37 42 48	2373	35 58 35	2361
24	MARS W.	74 10 56	2182	75 59 50	2174	77 48 56	2167	79 38 14	2160
	α Aquilæ W.	72 37 18	2943	74 8 42	2919	75 40 37	2896	77 13 1	2877
	SUN E.	27 13 24	2310	25 27 39	2302	23 41 43	2296	21 55 37	2289
27	SUN W.	15 24 52	2237	17 9 57	2247	18 54 48	2258	20 39 23	2269
	Pollux E.	58 20 4	2044	56 27 39	2055	54 35 30	2066	52 43 38	2078
	Regulus E.	94 46 32	2056	92 54 25	2066	91 2 34	2077	89 11 0	2088
28	SUN W.	29 17 47	2439	31 0 26	2454	32 42 44	2470	34 24 39	2487
	Pollux E.	43 29 9	2145	41 39 19	2161	39 49 52	2176	38 0 49	2192
	Regulus E.	79 57 52	2156	78 8 18	2170	76 19 6	2186	74 30 18	2202
29	SUN W.	42 48 13	2577	44 27 40	2596	46 6 41	2615	47 45 16	2634
	Pollux E.	29 1 52	2281	27 15 25	2300	25 29 25	2320	23 43 54	2339
	Regulus E.	65 32 26	2289	63 46 10	2307	62 0 20	2325	60 14 57	2344
	SATURN E.	90 55 52	2260	89 8 53	2277	87 22 20	2296	85 36 14	2313
30	SUN W.	55 51 34	2734	57 27 29	2753	59 2 58	2774	60 38 0	2794
	Aldebaran W.	30 3 34	2558	31 43 27	2563	33 23 13	2571	35 2 48	2580
	Regulus E.	51 34 58	2442	49 52 23	2462	48 10 16	2482	46 28 37	2502
	SATURN E.	76 52 23	2407	75 8 58	2425	73 25 59	2444	71 43 27	2463

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
<i>SUN.</i>	1	^h 2 ^m 36 ^s 25.18	9.561	N.15° 18' 19.2"	+44.92	15' 54.10"	66.12	^m 3 ^s 4.28	0.294
Mon.	2	2 40 14.90	9.583	15 36 9.7	44.28	15 53.87	66.20	3 11.09	0.272
Tues.	3	2 44 5.16	9.605	15 53 44.6	43.63	15 53.64	66.28	3 17.37	0.250
Wed.	4	2 47 55.95	9.627	16 11 3.6	+42.96	15 53.42	66.36	3 23.12	0.228
Thur.	5	2 51 47.28	9.650	16 28 6.4	42.28	15 53.20	66.44	3 28.34	0.205
Frid.	6	2 55 39.16	9.673	16 44 52.8	41.58	15 52.98	66.52	3 33.01	0.182
Sat.	7	2 59 31.60	9.697	17 1 22.4	+40.87	15 52.76	66.60	3 37.12	0.159
<i>SUN.</i>	8	3 3 24.59	9.720	17 17 34.8	40.15	15 52.55	66.69	3 40.67	0.136
Mon.	9	3 7 18.14	9.743	17 33 29.9	39.43	15 52.34	66.77	3 43.67	0.113
Tues.	10	3 11 12.26	9.767	17 49 7.4	+38.69	15 52.13	66.85	3 46.10	0.089
Wed.	11	3 15 6.95	9.791	18 4 27.0	37.94	15 51.92	66.93	3 47.96	0.065
Thur.	12	3 19 2.22	9.815	18 19 28.5	37.18	15 51.71	67.02	3 49.24	0.041
Frid.	13	3 22 58.06	9.840	18 34 11.6	+36.40	15 51.50	67.10	3 49.95	0.016
Sat.	14	3 26 54.49	9.864	18 48 36.0	35.62	15 51.30	67.18	3 50.08	0.009
<i>SUN.</i>	15	3 30 51.50	9.888	19 2 41.4	34.83	15 51.10	67.26	3 49.63	0.032
Mon.	16	3 34 49.09	9.912	19 16 27.6	+34.02	15 50.90	67.34	3 48.59	0.056
Tues.	17	3 38 47.26	9.936	19 29 54.3	33.20	15 50.70	67.42	3 46.97	0.080
Wed.	18	3 42 46.01	9.959	19 43 1.3	32.37	15 50.51	67.50	3 44.79	0.103
Thur.	19	3 46 45.33	9.983	19 55 48.3	+31.53	15 50.32	67.58	3 42.05	0.127
Frid.	20	3 50 45.21	10.006	20 8 15.1	30.68	15 50.13	67.65	3 38.74	0.150
Sat.	21	3 54 45.65	10.029	20 20 21.3	29.81	15 49.95	67.73	3 34.86	0.173
<i>SUN.</i>	22	3 58 46.64	10.053	20 32 6.7	+28.94	15 49.77	67.80	3 30.43	0.196
Mon.	23	4 2 48.17	10.075	20 43 31.1	28.06	15 49.59	67.88	3 25.47	0.218
Tues.	24	4 6 50.23	10.097	20 54 34.2	27.17	15 49.42	67.95	3 19.99	0.240
Wed.	25	4 10 52.80	10.119	21 5 15.7	+26.27	15 49.26	68.02	3 14.00	0.261
Thur.	26	4 14 55.86	10.138	21 15 35.5	25.36	15 49.10	68.09	3 7.51	0.281
Frid.	27	4 18 59.39	10.157	21 25 33.2	24.43	15 48.95	68.16	3 0.55	0.300
Sat.	28	4 23 3.39	10.176	21 35 8.6	+23.50	15 48.80	68.22	2 53.13	0.319
<i>SUN.</i>	29	4 27 7.83	10.194	21 44 21.6	22.56	15 48.66	68.28	2 45.27	0.337
Mon.	30	4 31 12.70	10.211	21 53 11.9	21.61	15 48.52	68.34	2 36.98	0.354
Tues.	31	4 35 17.97	10.228	22 1 39.3	20.65	15 48.38	68.40	2 28.28	0.371
Wed.	32	4 39 23.64	10.244	N.22° 9' 43.6"	+19.69	15 48.25	68.45	2 19.19	0.387

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	N. [°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
SUN.	1	2 36 25.67	9.562	N. 15 18 21.5	+44.92	3 4.30	0.294	2 39 29.97
Mon.	2	2 40 15.41	9.584	15 36 12.0	44.28	3 11.11	0.272	2 43 26.52
Tues.	3	2 44 5.68	9.606	15 53 46.9	43.63	3 17.39	0.250	2 47 23.08
Wed.	4	2 47 56.49	9.628	16 11 6.0	+42.96	3 23.14	0.228	2 51 19.63
Thur.	5	2 51 47.84	9.651	16 28 8.9	42.28	3 28.35	0.205	2 55 16.19
Frid.	6	2 55 39.73	9.674	16 44 55.2	41.58	3 33.01	0.182	2 59 12.74
Sat.	7	2 59 32.18	9.697	17 1 24.8	+40.87	3 37.12	0.159	3 3 9.30
SUN.	8	3 3 25.18	9.720	17 17 37.3	40.15	3 40.68	0.136	3 7 5.86
Mon.	9	3 7 18.74	9.743	17 33 32.4	39.43	3 43.68	0.113	3 11 2.42
Tues.	10	3 11 12.87	9.767	17 49 9.9	+38.69	3 46.11	0.089	3 14 58.97
Wed.	11	3 15 7.57	9.791	18 4 29.5	37.94	3 47.96	0.065	3 18 55.53
Thur.	12	3 19 2.84	9.815	18 19 31.0	37.18	3 49.24	0.041	3 22 52.08
Frid.	13	3 22 58.69	9.840	18 34 14.0	+36.40	3 49.95	0.016	3 26 48.64
Sat.	14	3 26 55.12	9.864	18 48 38.3	35.62	3 50.08	0.009	3 30 45.20
SUN.	15	3 30 52.13	9.888	19 2 43.6	34.83	3 49.63	0.032	3 34 41.76
Mon.	16	3 34 49.72	9.912	19 16 29.8	+34.02	3 48.59	0.056	3 38 38.31
Tues.	17	3 38 47.89	9.936	19 29 56.5	33.20	3 46.98	0.080	3 42 34.87
Wed.	18	3 42 46.63	9.959	19 43 3.4	32.37	3 44.79	0.103	3 46 31.42
Thur.	19	3 46 45.94	9.983	19 55 50.3	+31.53	3 42.04	0.127	3 50 27.98
Frid.	20	3 50 45.82	10.006	20 8 17.0	30.68	3 38.73	0.150	3 54 24.54
Sat.	21	3 54 46.25	10.029	20 20 23.1	29.81	3 34.85	0.173	3 58 21.10
SUN.	22	3 58 47.23	10.052	20 32 8.4	+28.94	3 30.42	0.196	4 2 17.65
Mon.	23	4 2 48.75	10.074	20 43 32.7	28.06	3 25.46	0.218	4 6 14.21
Tues.	24	4 6 50.79	10.096	20 54 35.7	27.17	3 19.98	0.240	4 10 10.77
Wed.	25	4 10 53.34	10.117	21 5 17.1	+26.27	3 13.99	0.261	4 14 7.33
Thur.	26	4 14 56.38	10.137	21 15 36.8	25.36	3 7.50	0.281	4 18 3.88
Frid.	27	4 18 59.90	10.156	21 25 34.4	24.43	3 0.54	0.300	4 22 0.41
Sat.	28	4 23 3.88	10.175	21 35 9.7	+23.50	2 53.12	0.319	4 25 57.00
SUN.	29	4 27 8.30	10.193	21 44 22.6	22.56	2 45.26	0.337	4 29 53.56
Mon.	30	4 31 13.15	10.210	21 53 12.8	21.61	2 36.97	0.354	4 33 50.12
Tues.	31	4 35 18.40	10.227	22 1 40.1	20.65	2 28.27	0.371	4 37 46.68
Wed.	32	4 39 24.05	10.243	N. 22 9 44.4	+19.69	2 19.18	0.387	4 41 43.23

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 Hour,
+9.8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S					Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE				
		λ	λ'						
1	122	41° 32' 58.8	32' 56.0	145.45	+ 0.58	0.0035803	+43.8	^h 21 ^m 17 ^s 0.26	
2	123	42 31 8.6	31 5.7	145.36	0.66	0.0036845	43.2	21 13 4.35	
3	124	43 29 16.4	29 13.3	145.28	0.70	0.0037874	42.7	21 9 8.43	
4	125	44 27 22.1	27 18.9	145.20	+ 0.72	0.0038891	+42.2	21 5 12.52	
5	126	45 25 25.9	25 22.5	145.12	0.71	0.0039897	41.8	21 1 16.61	
6	127	46 23 27.8	23 24.3	145.04	0.66	0.0040893	41.4	20 57 20.70	
7	128	47 21 27.9	21 24.3	144.97	+ 0.59	0.0041879	+41.0	20 53 24.80	
8	129	48 19 26.1	19 22.3	144.89	0.49	0.0042856	40.6	20 49 28.89	
9	130	49 17 22.5	17 18.5	144.82	0.37	0.0043825	40.2	20 45 32.98	
10	131	50 15 17.2	15 13.1	144.75	+ 0.25	0.0044787	+39.9	20 41 37.07	
11	132	51 13 10.4	13 6.1	144.69	+ 0.12	0.0045741	39.5	20 37 41.16	
12	133	52 11 2.0	10 57.5	144.62	— 0.01	0.0046687	39.2	20 33 45.25	
13	134	53 8 52.1	8 47.5	144.56	— 0.13	0.0047625	+38.8	20 29 49.34	
14	135	54 6 40.9	6 36.1	144.50	0.24	0.0048555	38.5	20 25 53.43	
15	136	55 4 28.4	4 23.4	144.45	0.33	0.0049476	38.1	20 21 57.51	
16	137	56 2 14.7	2 9.6	144.40	— 0.39	0.0050386	+37.7	20 18 1.60	
17	138	56 59 59.8	59 54.6	144.35	0.42	0.0051284	37.2	20 14 5.69	
18	139	57 57 43.8	57 38.4	144.31	0.42	0.0052169	36.6	20 10 9.78	
19	140	58 55 26.7	55 21.1	144.27	— 0.39	0.0053040	+36.0	20 6 13.87	
20	141	59 53 8.6	53 2.8	144.23	0.33	0.0053896	35.3	20 2 17.96	
21	142	60 50 49.5	50 43.5	144.19	0.25	0.0054734	34.5	19 58 22.05	
22	143	61 48 29.3	48 23.2	144.14	— 0.14	0.0055552	+33.7	19 54 26.14	
23	144	62 46 8.1	46 1.8	144.10	— 0.02	0.0056350	32.8	19 50 30.22	
24	145	63 43 45.8	43 39.3	144.05	+ 0.11	0.0057126	31.9	19 46 34.31	
25	146	64 41 22.4	41 15.7	144.01	+ 0.25	0.0057880	+31.0	19 42 38.40	
26	147	65 38 57.9	38 51.0	143.96	0.38	0.0058612	30.0	19 38 42.49	
27	148	66 36 32.2	36 25.1	143.91	0.50	0.0059321	29.0	19 34 46.57	
28	149	67 34 5.3	33 58.1	143.86	+ 0.60	0.0060005	+28.0	19 30 50.66	
29	150	68 31 37.3	31 29.9	143.81	0.68	0.0060666	27.1	19 26 54.75	
30	151	69 29 8.1	29 0.5	143.76	0.74	0.0061306	26.2	19 22 58.84	
31	152	70 26 37.6	26 29.8	143.71	0.76	0.0061925	25.3	19 19 2.93	
32	153	71 24 5.8	23 57.9	143.65	+ 0.75	0.0062523	+24.5	19 15 7.02	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 1 st .0.									Diff. for 1 Hour, —9 ^m .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	
							h m	m	
1	15 49.7	15 42.0	57 59.0	-2.39	57 30.5	-2.34	4 32.6	2.43	4 6
2	15 34.5	15 27.3	57 2.9	2.25	56 36.6	2.13	5 29.2	2.26	5 6
3	15 20.6	15 14.3	56 11.9	1.99	55 49.1	1.82	6 21.3	2.08	6 6
4	15 8.7	15 3.7	55 28.3	-1.64	55 9.8	-1.46	7 8.9	1.91	7 6
5	14 59.2	14 55.4	54 53.5	1.27	54 39.4	1.08	7 52.8	1.77	8 6
6	14 52.2	14 49.6	54 27.7	0.89	54 18.1	0.71	8 34.0	1.68	9 6
7	14 47.6	14 46.1	54 10.7	-0.54	54 5.4	-0.37	9 13.7	1.64	10 6
8	14 45.2	14 44.8	54 2.0	-0.21	54 0.4	-0.07	9 52.8	1.64	11 6
9	14 44.8	14 45.3	54 0.5	+0.08	54 2.2	+0.21	10 32.6	1.69	12 6
10	14 46.1	14 47.4	54 5.4	+0.33	54 10.0	+0.44	11 13.8	1.77	13 6
11	14 49.0	14 50.9	54 15.8	0.54	54 22.8	0.63	11 57.5	1.88	14 6
12	14 53.1	14 55.6	54 30.9	0.73	54 40.2	0.82	12 44.2	2.01	15 6
13	14 58.4	15 1.5	54 50.5	+0.90	55 1.8	+0.99	13 34.1	2.14	16 6
14	15 4.8	15 8.5	55 14.1	1.08	55 27.5	1.16	14 27.0	2.24	17 6
15	15 12.4	15 16.6	55 41.8	1.25	55 57.3	1.34	15 21.6	2.28	18 6
16	15 21.1	15 25.8	56 13.8	+1.42	56 31.2	+1.50	16 16.7	2.28	19 6
17	15 30.9	15 36.2	56 49.7	1.59	57 9.2	1.66	17 10.8	2.22	20 6
18	15 41.7	15 47.4	57 29.4	1.71	57 50.3	1.77	18 3.0	2.16	21 6
19	15 53.2	15 59.1	58 11.7	+1.79	58 33.2	+1.80	18 53.7	2.08	22 6
20	16 4.9	16 10.6	58 54.7	1.77	59 15.6	1.70	19 43.0	2.05	23 6
21	16 16.0	16 21.0	59 35.5	1.60	59 53.9	1.46	20 32.2	2.07	24 6
22	16 25.5	16 29.3	60 10.3	+1.27	60 24.3	+1.04	21 22.5	2.15	25 6
23	16 32.3	16 34.3	60 35.2	0.77	60 42.6	+0.47	22 15.3	2.27	26 6
24	16 35.3	16 35.2	60 46.3	+0.14	60 45.8	-0.22	23 11.4	2.41	27 6
25	16 33.9	16 31.5	60 41.1	-0.57	60 32.3	-0.90	♄		28 6
26	16 28.0	16 23.5	60 19.5	1.23	60 3.0	1.51	0 11.1	2.54	0 3
27	16 18.1	16 12.0	59 43.2	1.76	59 20.8	1.96	1 13.3	2.60	1 3
28	16 5.3	15 58.3	58 56.3	-2.11	58 30.3	-2.21	2 15.8	2.56	2 3
29	15 50.9	15 43.6	58 3.4	2.25	57 36.3	2.25	3 16.0	2.41	3 3
30	15 36.2	15 29.2	57 9.4	2.21	56 43.4	2.12	4 11.6	2.22	4 3
31	15 22.4	15 16.1	56 18.6	2.00	55 55.4	1.86	5 2.4	2.02	5 3
32	15 10.3	15 5.1	55 34.1	-1.69	55 14.9	-1.51	5 48.6	1.85	6 3

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	h m s	a	N. 27° 9' 20.9	1.868	0	h m s	a	N. 22° 48' 57.2	8.464
1	7 3 55.61	2.5292	27 7 23.8	2.036	1	8 57 58.60	2.2070	22 40 26.2	8.568
2	7 6 27.21	2.5240	27 5 16.6	2.202	2	9 0 10.80	2.1998	22 31 49.0	8.672
3	7 8 58.49	2.5186	27 2 59.5	2.367	3	9 2 22.57	2.1926	22 23 5.6	8.773
4	7 11 29.44	2.5131	27 0 32.5	2.532	4	9 4 33.91	2.1855	22 14 16.2	8.873
5	7 14 0.06	2.5076	26 57 55.7	2.695	5	9 6 44.83	2.1784	22 5 20.8	8.972
6	7 16 30.35	2.5020	26 55 9.1	2.857	6	9 8 55.32	2.1713	21 56 19.6	9.069
7	7 19 0.30	2.4962	26 52 12.8	3.017	7	9 11 5.39	2.1642	21 47 12.6	9.165
8	7 21 29.90	2.4903	26 49 7.0	3.177	8	9 13 15.03	2.1572	21 37 59.8	9.260
9	7 23 59.14	2.4844	26 45 51.6	3.336	9	9 15 24.25	2.1502	21 28 41.4	9.353
10	7 26 28.03	2.4785	26 42 26.7	3.492	10	9 17 33.05	2.1432	21 19 17.4	9.445
11	7 28 56.56	2.4724	26 38 52.5	3.647	11	9 19 41.44	2.1363	21 9 48.0	9.535
12	7 31 24.72	2.4662	26 35 9.0	3.802	12	9 21 49.41	2.1294	21 0 13.2	9.625
13	7 33 52.51	2.4600	26 31 16.2	3.956	13	9 23 56.97	2.1226	20 50 33.0	9.713
14	7 36 19.92	2.4537	26 27 14.3	4.107	14	9 26 4.12	2.1158	20 40 47.6	9.800
15	7 38 46.95	2.4472	26 23 3.3	4.258	15	9 28 10.86	2.1090	20 30 57.0	9.887
16	7 41 13.59	2.4407	26 18 43.3	4.408	16	9 30 17.20	2.1022	20 21 1.2	9.972
17	7 43 39.84	2.4342	26 14 14.3	4.557	17	9 32 23.13	2.0955	20 11 0.4	10.054
18	7 46 5.70	2.4277	26 9 36.5	4.703	18	9 34 28.66	2.0889	20 0 54.7	10.136
19	7 48 31.16	2.4210	26 4 49.9	4.848	19	9 36 33.80	2.0823	19 50 44.1	10.217
20	7 50 56.22	2.4143	25 59 54.7	4.992	20	9 38 38.54	2.0757	19 40 28.6	10.297
21	7 53 20.88	2.4076	25 54 50.9	5.135	21	9 40 42.89	2.0692	19 30 8.4	10.376
22	7 55 45.13	2.4007	25 49 38.5	5.277	22	9 42 46.85	2.0626	19 19 43.5	10.453
23	7 58 8.97	2.3938	N. 25 44 17.7	5.417	23	9 44 50.43	2.0564	N. 19 9 14.0	10.529
MONDAY 2.					WEDNESDAY 4.				
0	8 0 32.39	2.3869	N. 25 38 48.5	5.555	0	9 46 53.62	2.0500	N. 18 58 40.0	10.604
1	8 2 55.40	2.3800	25 33 11.1	5.692	1	9 48 56.43	2.0438	18 48 1.5	10.678
2	8 5 17.99	2.3730	25 27 25.4	5.829	2	9 50 58.87	2.0376	18 37 18.6	10.751
3	8 7 40.16	2.3659	25 21 31.6	5.964	3	9 53 0.94	2.0314	18 26 31.4	10.822
4	8 10 1.90	2.3588	25 15 29.7	6.097	4	9 55 2.63	2.0252	18 15 40.0	10.892
5	8 12 23.22	2.3517	25 9 20.0	6.227	5	9 57 3.96	2.0192	18 4 44.3	10.962
6	8 14 44.11	2.3446	25 3 2.5	6.357	6	9 59 4.93	2.0132	17 53 44.5	11.030
7	8 17 4.57	2.3374	24 56 37.2	6.487	7	10 1 5.54	2.0072	17 42 40.7	11.097
8	8 19 24.60	2.3303	24 50 4.1	6.615	8	10 3 5.79	2.0012	17 31 32.9	11.163
9	8 21 44.20	2.3231	24 43 23.4	6.741	9	10 5 5.69	1.9954	17 20 21.1	11.229
10	8 24 3.37	2.3158	24 36 35.2	6.866	10	10 7 5.24	1.9897	17 9 5.4	11.292
11	8 26 22.10	2.3086	24 29 39.5	6.989	11	10 9 4.45	1.9840	16 57 46.0	11.354
12	8 28 40.40	2.3013	24 22 36.5	7.111	12	10 11 3.32	1.9783	16 46 22.9	11.416
13	8 30 58.26	2.2941	24 15 26.2	7.232	13	10 13 1.85	1.9727	16 34 56.1	11.477
14	8 33 15.69	2.2868	24 8 8.7	7.350	14	10 15 0.05	1.9672	16 23 25.6	11.537
15	8 35 32.68	2.2795	24 0 44.2	7.467	15	10 16 57.92	1.9617	16 11 51.6	11.596
16	8 37 49.23	2.2722	23 53 12.6	7.584	16	10 18 55.46	1.9563	16 0 14.1	11.653
17	8 40 5.35	2.2650	23 45 34.1	7.699	17	10 20 52.68	1.9510	15 48 33.2	11.709
18	8 42 21.03	2.2577	23 37 48.7	7.813	18	10 22 49.58	1.9457	15 36 49.0	11.764
19	8 44 36.27	2.2504	23 29 56.5	7.925	19	10 24 46.16	1.9405	15 25 1.5	11.819
20	8 46 51.08	2.2432	23 21 57.7	8.035	20	10 26 42.44	1.9354	15 13 10.7	11.873
21	8 49 5.45	2.2359	23 13 52.3	8.145	21	10 28 38.41	1.9303	15 1 16.7	11.926
22	8 51 19.39	2.2287	23 5 40.3	8.253	22	10 30 34.08	1.9253	14 49 19.6	11.978
23	8 53 32.89	2.2214	22 57 21.9	8.359	23	10 32 29.45	1.9204	14 37 19.4	12.029
24	8 55 45.96	2.2142	N. 22 48 57.2	8.464	24	10 34 24.53	1.9156	N. 14 25 16.1	12.079

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	10 34 24.53	1.9156	N. 14° 25' 16.1"	12.079	0	12 2 5.66	1.7655	N. 4° 4' 29.5"	13.484
1	10 36 19.32	1.9108	14 13 9.9	12.137	1	12 3 51.55	1.7649	3 51 0.1	13.486
2	10 38 13.82	1.9060	14 1 0.8	12.175	2	12 5 37.36	1.7698	3 37 30.1	13.506
3	10 40 8.04	1.9013	13 48 48.9	12.222	3	12 7 23.09	1.7616	3 23 59.4	13.516
4	10 42 1.98	1.8967	13 36 34.2	12.268	4	12 9 8.75	1.7604	3 10 28.2	13.524
5	10 43 55.65	1.8922	13 24 16.7	12.313	5	12 10 54.34	1.7593	2 56 56.5	13.532
6	10 45 49.05	1.8877	13 11 56.6	12.357	6	12 12 39.87	1.7583	2 43 24.4	13.539
7	10 47 42.18	1.8834	12 59 33.8	12.401	7	12 14 25.34	1.7574	2 29 51.8	13.546
8	10 49 35.06	1.8792	12 47 8.5	12.444	8	12 16 10.76	1.7566	2 16 18.9	13.552
9	10 51 27.68	1.8749	12 34 40.6	12.486	9	12 17 56.13	1.7557	2 2 45.6	13.557
10	10 53 20.05	1.8707	12 22 10.2	12.526	10	12 19 41.45	1.7549	1 49 12.0	13.562
11	10 55 12.17	1.8667	12 9 37.5	12.565	11	12 21 26.72	1.7542	1 35 38.2	13.566
12	10 57 4.05	1.8627	11 57 2.4	12.604	12	12 23 11.95	1.7536	1 22 4.1	13.569
13	10 58 55.69	1.8587	11 44 25.0	12.642	13	12 24 57.15	1.7531	1 8 29.9	13.572
14	11 0 47.09	1.8548	11 31 45.3	12.680	14	12 26 42.32	1.7527	0 54 55.5	13.574
15	11 2 38.26	1.8510	11 19 3.4	12.717	15	12 28 27.47	1.7522	0 41 21.0	13.576
16	11 4 29.21	1.8472	11 6 19.3	12.752	16	12 30 12.59	1.7519	0 27 46.4	13.576
17	11 6 19.93	1.8435	10 53 33.1	12.787	17	12 31 57.70	1.7516	0 14 11.9	13.575
18	11 8 10.43	1.8399	10 40 44.9	12.820	18	12 33 42.79	1.7514	N. 0 0 37.4	13.575
19	11 10 0.72	1.8364	10 27 54.7	12.853	19	12 35 27.87	1.7513	S. 0 12 57.1	13.573
20	11 11 50.80	1.8330	10 15 2.5	12.886	20	12 37 12.95	1.7513	0 26 31.4	13.571
21	11 13 40.68	1.8296	10 2 8.3	12.918	21	12 38 58.03	1.7513	0 40 5.6	13.568
22	11 15 30.35	1.8263	9 49 12.3	12.949	22	12 40 43.11	1.7514	0 53 39.6	13.565
23	11 17 19.83	1.8231	N. 9 36 14.4	12.979	23	12 42 28.20	1.7515	S. 1 7 13.4	13.561
FRIDAY 6.					SUNDAY 8.				
0	11 19 9.12	1.8199	N. 9 23 14.8	13.008	0	12 44 13.29	1.7517	S. 1 20 46.9	13.556
1	11 20 58.22	1.8168	9 10 13.5	13.036	1	12 45 58.40	1.7520	1 34 20.1	13.550
2	11 22 47.14	1.8137	8 57 10.5	13.064	2	12 47 43.53	1.7524	1 47 52.9	13.543
3	11 24 35.87	1.8107	8 44 5.8	13.092	3	12 49 28.69	1.7529	2 1 25.3	13.536
4	11 26 24.43	1.8079	8 30 59.5	13.118	4	12 51 13.88	1.7533	2 14 57.2	13.528
5	11 28 12.82	1.8052	8 17 51.7	13.143	5	12 52 59.09	1.7538	2 28 28.7	13.521
6	11 30 1.05	1.8025	8 4 42.4	13.168	6	12 54 44.33	1.7543	2 41 59.7	13.512
7	11 31 49.12	1.7998	7 51 31.6	13.191	7	12 56 29.61	1.7551	2 55 30.1	13.501
8	11 33 37.03	1.7972	7 38 19.5	13.214	8	12 58 14.94	1.7559	3 8 59.8	13.490
9	11 35 24.78	1.7946	7 25 6.0	13.236	9	13 0 0.32	1.7567	3 22 28.9	13.479
10	11 37 12.38	1.7922	7 11 51.2	13.258	10	13 1 45.75	1.7576	3 35 57.3	13.467
11	11 38 59.84	1.7899	6 58 35.1	13.279	11	13 3 31.23	1.7585	3 49 25.0	13.455
12	11 40 47.17	1.7877	6 45 17.7	13.299	12	13 5 16.77	1.7595	4 2 51.9	13.441
13	11 42 34.36	1.7854	6 31 59.2	13.318	13	13 7 2.37	1.7606	4 16 17.9	13.427
14	11 44 21.42	1.7832	6 18 39.6	13.337	14	13 8 48.04	1.7617	4 29 43.1	13.412
15	11 46 8.34	1.7810	6 5 18.8	13.355	15	13 10 33.78	1.7630	4 43 7.4	13.397
16	11 47 55.14	1.7791	5 51 57.0	13.372	16	13 12 19.60	1.7643	4 56 30.8	13.381
17	11 49 41.83	1.7772	5 38 34.1	13.389	17	13 14 5.50	1.7656	5 9 53.1	13.364
18	11 51 28.40	1.7753	5 25 10.3	13.404	18	13 15 51.47	1.7669	5 23 14.4	13.346
19	11 53 14.86	1.7735	5 11 45.6	13.419	19	13 17 37.53	1.7685	5 36 34.6	13.327
20	11 55 1.22	1.7717	4 58 20.0	13.434	20	13 19 23.69	1.7701	5 49 53.7	13.308
21	11 56 47.47	1.7701	4 44 53.5	13.448	21	13 21 9.94	1.7716	6 3 11.6	13.288
22	11 58 33.63	1.7685	4 31 26.2	13.461	22	13 22 56.28	1.7733	6 16 28.3	13.268
23	12 0 19.69	1.7669	4 17 58.2	13.473	23	13 24 42.73	1.7750	6 29 43.8	13.247
24	12 2 5.66	1.7655	N. 4 4 29.5	13.484	24	13 26 29.26	1.7767	S. 6 42 58.0	13.225

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	13 ^h 26 ^m 29.28 ^s	1.7767	S. 6° 42' 58.0"	13.925	0	14 ^h 54 ^m 57.87 ^s	1.9307	S. 16° 37' 16.1"	11.913
1	13 28 15.94	1.7786	6 56 10.8	13.902	1	14 56 53.85	1.9352	16 48 27.0	11.150
2	13 30 2.71	1.7805	7 9 22.2	13.178	2	14 58 50.10	1.9397	16 59 34.1	11.066
3	13 31 49.60	1.7825	7 22 32.2	13.154	3	15 0 46.62	1.9442	17 10 37.3	11.090
4	13 33 36.61	1.7846	7 35 40.7	13.139	4	15 2 43.41	1.9488	17 21 36.5	10.953
5	13 35 23.75	1.7867	7 48 47.7	13.103	5	15 4 40.48	1.9534	17 32 31.7	10.886
6	13 37 11.01	1.7888	8 1 53.1	13.077	6	15 6 37.82	1.9580	17 43 22.8	10.817
7	13 38 58.40	1.7910	8 14 56.9	13.049	7	15 8 35.44	1.9627	17 54 9.8	10.748
8	13 40 45.93	1.7933	8 27 59.0	13.021	8	15 10 33.35	1.9675	18 4 52.6	10.678
9	13 42 33.60	1.7957	8 40 59.4	12.992	9	15 12 31.54	1.9722	18 15 31.2	10.607
10	13 44 21.41	1.7981	8 53 58.0	12.969	10	15 14 30.01	1.9769	18 26 5.5	10.535
11	13 46 9.37	1.8005	9 6 54.8	12.932	11	15 16 28.77	1.9817	18 36 35.4	10.461
12	13 47 57.47	1.8030	9 19 49.8	12.901	12	15 18 27.82	1.9866	18 47 0.8	10.386
13	13 49 45.73	1.8056	9 32 42.9	12.868	13	15 20 27.16	1.9914	18 57 21.7	10.311
14	13 51 34.15	1.8083	9 45 34.0	12.835	14	15 22 26.79	1.9963	19 7 38.1	10.236
15	13 53 22.73	1.8110	9 58 23.1	12.802	15	15 24 26.72	2.0013	19 17 50.0	10.159
16	13 55 11.47	1.8138	10 11 10.2	12.767	16	15 26 26.95	2.0062	19 27 57.2	10.080
17	13 57 0.38	1.8166	10 23 55.2	12.732	17	15 28 27.47	2.0112	19 37 59.6	10.000
18	13 58 49.46	1.8195	10 36 38.0	12.695	18	15 30 28.29	2.0162	19 47 57.2	9.920
19	14 0 38.72	1.8225	10 49 18.6	12.658	19	15 32 29.41	2.0212	19 57 50.0	9.839
20	14 2 28.16	1.8254	11 1 57.0	12.621	20	15 34 30.84	2.0263	20 7 37.9	9.757
21	14 4 17.77	1.8284	11 14 33.2	12.583	21	15 36 32.57	2.0313	20 17 20.8	9.673
22	14 6 7.57	1.8316	11 27 7.0	12.543	22	15 38 34.60	2.0364	20 26 58.7	9.589
23	14 7 57.56	1.8348	S. 11° 39' 38.4"	12.503	23	15 40 36.94	2.0415	S. 20° 36' 31.5"	9.503
TUESDAY 10.					THURSDAY 12.				
0	14 9 47.75	1.8381	S. 11° 52' 7.4"	12.462	0	15 42 39.58	2.0466	S. 20° 45' 59.1"	9.417
1	14 11 38.13	1.8413	12 4 33.9	12.421	1	15 44 42.53	2.0517	20 55 21.5	9.330
2	14 13 28.71	1.8446	12 16 57.9	12.377	2	15 46 45.79	2.0569	21 4 38.7	9.242
3	14 15 19.48	1.8479	12 29 19.2	12.333	3	15 48 49.36	2.0621	21 13 50.5	9.152
4	14 17 10.46	1.8514	12 41 37.9	12.289	4	15 50 53.24	2.0672	21 22 56.9	9.061
5	14 19 1.65	1.8550	12 53 53.9	12.244	5	15 52 57.43	2.0723	21 31 57.8	8.969
6	14 20 53.06	1.8586	13 6 7.2	12.198	6	15 55 1.92	2.0775	21 40 53.2	8.877
7	14 22 44.68	1.8621	13 18 17.7	12.151	7	15 57 6.73	2.0827	21 49 43.0	8.783
8	14 24 36.51	1.8657	13 30 25.3	12.103	8	15 59 11.85	2.0879	21 58 27.2	8.689
9	14 26 28.56	1.8694	13 42 30.1	12.055	9	16 1 17.28	2.0932	22 7 5.7	8.593
10	14 28 20.84	1.8732	13 54 31.9	12.004	10	16 3 23.03	2.0984	22 15 38.4	8.497
11	14 30 13.35	1.8770	14 6 30.6	11.953	11	16 5 29.09	2.1036	22 24 5.3	8.399
12	14 32 6.08	1.8808	14 18 26.3	11.902	12	16 7 35.46	2.1088	22 32 26.3	8.300
13	14 33 59.05	1.8847	14 30 18.9	11.850	13	16 9 42.14	2.1140	22 40 41.3	8.200
14	14 35 52.25	1.8887	14 42 8.3	11.797	14	16 11 49.14	2.1192	22 48 50.3	8.100
15	14 37 45.69	1.8927	14 53 54.5	11.742	15	16 13 56.45	2.1244	22 56 53.3	7.998
16	14 39 39.37	1.8968	15 5 37.4	11.687	16	16 16 4.07	2.1296	23 4 50.1	7.895
17	14 41 33.30	1.9009	15 17 17.0	11.631	17	16 18 12.00	2.1347	23 12 40.7	7.799
18	14 43 27.48	1.9051	15 28 53.2	11.574	18	16 20 20.23	2.1398	23 20 25.1	7.697
19	14 45 21.91	1.9092	15 40 25.9	11.517	19	16 22 28.77	2.1450	23 28 3.1	7.590
20	14 47 16.59	1.9134	15 51 55.2	11.458	20	16 24 37.63	2.1502	23 35 34.7	7.473
21	14 49 11.52	1.9177	16 3 20.9	11.398	21	16 26 46.80	2.1553	23 42 59.9	7.366
22	14 51 6.71	1.9220	16 14 43.0	11.337	22	16 28 56.27	2.1604	23 50 18.6	7.257
23	14 53 2.16	1.9263	16 26 1.4	11.276	23	16 31 6.05	2.1655	23 57 30.7	7.147
24	14 54 57.87	1.9307	S. 16° 37' 16.1"	11.213	24	16 33 16.13	2.1705	S. 24° 4' 36.2"	7.036

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	16 33 16.13	2.1705	S. 24° 4' 36.2"	7.036	0	18 22 28.58	2.3553	S. 27° 17' 29.4"	0.707
1	16 35 26.51	2.1756	24 11 35.0	6.924	1	18 24 49.96	2.3574	27 18 7.4	0.559
2	16 37 37.20	2.1807	24 18 27.1	6.811	2	18 27 11.47	2.3594	27 18 36.5	0.411
3	16 39 48.19	2.1857	24 25 12.3	6.697	3	18 29 33.09	2.3612	27 18 56.7	0.262
4	16 41 59.48	2.1906	24 31 50.7	6.582	4	18 31 54.82	2.3629	27 19 8.0	- 0.114
5	16 44 11.06	2.1955	24 38 22.2	6.467	5	18 34 16.64	2.3645	27 19 10.4	+ 0.035
6	16 46 22.94	2.2004	24 44 46.7	6.350	6	18 36 38.56	2.3661	27 19 3.8	0.185
7	16 48 35.11	2.2053	24 51 4.2	6.232	7	18 39 0.57	2.3676	27 18 48.2	0.335
8	16 50 47.57	2.2102	24 57 14.6	6.113	8	18 41 22.67	2.3689	27 18 23.6	0.484
9	16 53 0.33	2.2150	25 3 17.8	5.993	9	18 43 44.84	2.3701	27 17 50.1	0.634
10	16 55 13.37	2.2197	25 9 13.8	5.873	10	18 46 7.08	2.3713	27 17 7.5	0.785
11	16 57 26.69	2.2244	25 15 2.6	5.752	11	18 48 29.39	2.3724	27 16 15.9	0.936
12	16 59 40.30	2.2291	25 20 44.1	5.630	12	18 50 51.77	2.3734	27 15 15.2	1.087
13	17 1 54.18	2.2337	25 26 18.2	5.506	13	18 53 14.20	2.3742	27 14 5.5	1.237
14	17 4 8.34	2.2383	25 31 44.8	5.382	14	18 55 36.68	2.3750	27 12 46.7	1.388
15	17 6 22.78	2.2429	25 37 4.0	5.257	15	18 57 59.20	2.3757	27 11 18.9	1.539
16	17 8 37.49	2.2473	25 42 15.7	5.132	16	19 0 21.76	2.3762	27 9 42.0	1.691
17	17 10 52.46	2.2517	25 47 19.8	5.004	17	19 2 44.35	2.3767	27 7 55.9	1.843
18	17 13 7.70	2.2561	25 52 16.2	4.876	18	19 5 6.96	2.3770	27 6 0.8	1.994
19	17 15 23.20	2.2605	25 57 4.9	4.748	19	19 7 29.59	2.3773	27 3 56.6	2.146
20	17 17 38.96	2.2648	26 1 45.9	4.619	20	19 9 52.24	2.3776	27 1 43.3	2.297
21	17 19 54.97	2.2690	26 6 19.2	4.489	21	19 12 14.90	2.3777	26 59 20.9	2.449
22	17 22 11.24	2.2732	26 10 44.6	4.357	22	19 14 37.56	2.3777	26 56 49.4	2.601
23	17 24 27.75	2.2773	S. 26 15 2.1	4.225	23	19 17 0.22	2.3777	S. 26 54 8.8	2.752
SATURDAY 14.					MONDAY 16.				
0	17 26 44.51	2.2813	S. 26 19 11.6	4.093	0	19 19 22.88	2.3775	S. 26 51 19.2	2.903
1	17 29 1.51	2.2853	26 23 13.2	3.960	1	19 21 45.52	2.3772	26 48 20.5	3.054
2	17 31 18.74	2.2892	26 27 6.8	3.825	2	19 24 8.14	2.3768	26 45 12.7	3.206
3	17 33 36.21	2.2931	26 30 52.2	3.689	3	19 26 30.73	2.3763	26 41 55.8	3.357
4	17 35 53.91	2.2968	26 34 29.5	3.554	4	19 28 53.29	2.3758	26 38 29.8	3.508
5	17 38 11.83	2.3004	26 37 58.7	3.418	5	19 31 15.82	2.3753	26 34 54.8	3.658
6	17 40 29.96	2.3040	26 41 19.7	3.281	6	19 33 38.32	2.3746	26 31 10.8	3.808
7	17 42 48.31	2.3076	26 44 32.4	3.143	7	19 36 0.77	2.3737	26 27 17.8	3.959
8	17 45 6.87	2.3111	26 47 36.8	3.004	8	19 38 23.16	2.3728	26 23 15.7	4.110
9	17 47 25.64	2.3145	26 50 32.9	2.865	9	19 40 45.50	2.3718	26 19 4.6	4.260
10	17 49 44.61	2.3178	26 53 20.6	2.725	10	19 43 7.78	2.3708	26 14 44.5	4.409
11	17 52 3.78	2.3211	26 55 59.9	2.585	11	19 45 29.99	2.3697	26 10 15.5	4.558
12	17 54 23.14	2.3242	26 58 30.8	2.444	12	19 47 52.14	2.3685	26 5 37.6	4.707
13	17 56 42.69	2.3273	27 0 53.2	2.302	13	19 50 14.21	2.3672	26 0 50.7	4.856
14	17 59 2.42	2.3303	27 3 7.0	2.159	14	19 52 36.20	2.3658	25 55 54.9	5.004
15	18 1 22.32	2.3332	27 5 12.3	2.016	15	19 54 58.11	2.3644	25 50 50.2	5.152
16	18 3 42.40	2.3361	27 7 9.0	1.873	16	19 57 19.93	2.3628	25 45 36.6	5.300
17	18 6 2.65	2.3388	27 8 57.1	1.729	17	19 59 41.65	2.3612	25 40 14.2	5.448
18	18 8 23.05	2.3414	27 10 36.5	1.584	18	20 2 3.27	2.3595	25 34 42.9	5.595
19	18 10 43.61	2.3440	27 12 7.2	1.439	19	20 4 24.79	2.3578	25 29 2.8	5.741
20	18 13 4.33	2.3465	27 13 29.2	1.293	20	20 6 46.21	2.3561	25 23 14.0	5.886
21	18 15 25.19	2.3488	27 14 42.4	1.147	21	20 9 7.52	2.3542	25 17 16.5	6.032
22	18 17 46.19	2.3511	27 15 46.9	1.001	22	20 11 28.71	2.3522	25 11 10.2	6.177
23	18 20 7.32	2.3532	27 16 42.6	0.854	23	20 13 49.79	2.3503	25 4 55.2	6.322
24	18 22 28.58	2.3553	S. 27 17 29.4	0.707	24	20 16 10.75	2.3482	S. 24 58 31.6	6.466

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	h m s	a	S. 24 58 31.6	6.466	0	h m s	a	S. 17 15 25.3	12.507
1	20 16 10.75	2.3482	24 51 59.3	6.609	1	22 8 2.00	2.2150	17 2 51.8	12.610
2	20 18 31.58	2.3461	24 45 18.5	6.752	2	22 10 14.65	2.2122	16 50 12.1	12.712
3	20 20 52.28	2.3439	24 38 29.1	6.895	3	22 12 27.14	2.2095	16 37 26.3	12.813
4	20 23 12.85	2.3417	24 31 31.1	7.037	4	22 14 39.47	2.2068	16 24 34.5	12.913
5	20 25 33.28	2.3394	24 24 24.7	7.178	5	22 16 51.65	2.2042	16 11 36.7	13.012
6	20 27 53.58	2.3371	24 17 9.8	7.318	6	22 19 3.67	2.2017	15 58 33.1	13.109
7	20 30 13.74	2.3347	24 9 46.5	7.458	7	22 21 15.54	2.1991	15 45 23.6	13.206
8	20 32 33.75	2.3322	24 2 14.8	7.597	8	22 23 27.26	2.1966	15 32 8.3	13.302
9	20 34 53.61	2.3298	23 54 34.8	7.736	9	22 25 38.83	2.1941	15 18 47.3	13.397
10	20 37 13.33	2.3273	23 46 46.5	7.874	10	22 27 50.26	2.1917	15 5 20.7	13.490
11	20 39 32.89	2.3248	23 38 49.9	8.012	11	22 30 1.54	2.1893	14 51 48.5	13.582
12	20 41 52.30	2.3222	23 30 45.1	8.148	12	22 32 12.68	2.1869	14 38 10.8	13.673
13	20 44 11.55	2.3195	23 22 32.1	8.284	13	22 34 23.69	2.1846	14 24 27.7	13.763
14	20 46 30.64	2.3168	23 14 11.0	8.419	14	22 36 34.56	2.1823	14 10 39.2	13.852
15	20 48 49.57	2.3141	23 5 41.8	8.554	15	22 38 45.30	2.1801	13 56 45.4	13.940
16	20 51 8.33	2.3113	22 57 4.5	8.688	16	22 40 55.92	2.1780	13 42 46.4	14.027
17	20 53 26.92	2.3085	22 48 19.2	8.821	17	22 43 6.41	2.1759	13 28 42.2	14.112
18	20 55 45.35	2.3057	22 39 26.0	8.953	18	22 45 16.78	2.1738	13 14 33.0	14.196
19	20 58 3.61	2.3029	22 30 24.9	9.084	19	22 47 27.03	2.1718	13 0 18.7	14.279
20	21 0 21.70	2.3000	22 21 15.9	9.215	20	22 49 37.17	2.1699	12 45 59.5	14.360
21	21 2 39.61	2.2971	22 11 59.1	9.345	21	22 51 47.19	2.1680	12 31 35.5	14.440
22	21 4 57.35	2.2942	22 2 34.5	9.474	22	22 53 57.11	2.1663	12 17 6.7	14.520
23	21 7 14.92	2.2913	S. 21 53 2.2	9.601	23	22 56 6.92	2.1644	S. 12 2 33.1	14.598
24	21 9 32.31	2.2884					2.1627		
WEDNESDAY 18.					FRIDAY 20.				
0	h m s	a	S. 21 43 22.3	9.738	0	h m s	a	S. 11 47 54.9	14.675
1	21 11 49.53	2.2855	21 33 34.8	9.855	1	22 58 16.63	2.1610	11 33 12.1	14.751
2	21 14 6.57	2.2825	21 23 39.7	9.982	2	23 0 26.24	2.1594	11 18 24.8	14.825
3	21 16 23.43	2.2795	21 13 37.0	10.107	3	23 2 35.76	2.1579	11 3 33.1	14.898
4	21 18 40.11	2.2765	21 3 26.9	10.230	4	23 4 45.19	2.1564	10 48 37.0	14.970
5	21 20 56.61	2.2735	20 53 9.4	10.352	5	23 6 54.53	2.1550	10 33 36.7	15.040
6	21 23 12.93	2.2705	20 42 44.6	10.474	6	23 9 3.79	2.1536	10 18 32.2	15.109
7	21 25 29.07	2.2675	20 32 12.5	10.596	7	23 11 12.96	2.1523	10 3 23.6	15.177
8	21 27 45.03	2.2645	20 21 33.1	10.717	8	23 13 22.06	2.1511	9 48 10.9	15.245
9	21 30 0.81	2.2615	20 10 46.5	10.836	9	23 15 31.09	2.1500	9 32 54.2	15.311
10	21 32 16.41	2.2585	19 59 52.8	10.954	10	23 17 40.06	2.1489	9 17 33.6	15.375
11	21 34 31.83	2.2556	19 48 52.0	11.071	11	23 19 48.96	2.1479	9 2 9.2	15.437
12	21 36 47.08	2.2526	19 37 44.3	11.188	12	23 21 57.81	2.1470	8 46 41.1	15.498
13	21 39 2.14	2.2495	19 26 29.6	11.303	13	23 24 6.60	2.1461	8 31 9.4	15.559
14	21 41 17.02	2.2466	19 15 8.0	11.418	14	23 26 15.34	2.1453	8 15 34.0	15.619
15	21 43 31.73	2.2437	19 3 39.5	11.532	15	23 28 24.04	2.1446	7 59 55.1	15.677
16	21 45 46.26	2.2407	18 52 4.2	11.644	16	23 30 32.69	2.1439	7 44 12.8	15.733
17	21 48 0.61	2.2377	18 40 22.2	11.755	17	23 32 41.30	2.1433	7 28 27.2	15.787
18	21 50 14.78	2.2348	18 28 33.6	11.865	18	23 34 49.88	2.1428	7 12 38.4	15.840
19	21 52 28.78	2.2319	18 16 38.4	11.975	19	23 36 58.44	2.1424	6 56 46.4	15.892
20	21 54 42.61	2.2290	18 4 36.6	12.084	20	23 39 6.97	2.1420	6 40 51.3	15.944
21	21 56 56.26	2.2261	17 52 28.3	12.192	21	23 41 15.48	2.1417	6 24 53.1	16.000
22	21 59 9.74	2.2233	17 40 13.6	12.298	22	23 43 23.97	2.1415	6 8 52.0	16.052
23	22 1 23.05	2.2205	17 27 52.6	12.403	23	23 45 32.46	2.1414	5 52 48.1	16.088
24	22 3 36.20	2.2177			24	23 47 40.94	2.1413	S. 5 36 41.4	16.134
25	22 5 49.18	2.2150	S. 17 15 25.3	12.507			2.1414		

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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SATURDAY 21.

0	h m s	s	S. ° ' "	"
0	23 49 49.42	2.1414	5 36 41.4	16.134
1	23 51 57.91	2.1415	5 20 32.0	16.177
2	23 54 6.40	2.1416	5 4 20.1	16.219
3	23 56 14.90	2.1418	4 48 5.7	16.260
4	23 58 23.42	2.1422	4 31 48.9	16.300
5	0 0 31.97	2.1427	4 15 29.7	16.338
6	0 2 40.55	2.1432	3 59 8.3	16.374
7	0 4 49.16	2.1438	3 42 44.8	16.409
8	0 6 57.81	2.1444	3 26 19.2	16.443
9	0 9 6.49	2.1451	3 9 51.6	16.476
10	0 11 15.22	2.1460	2 53 22.1	16.506
11	0 13 24.01	2.1469	2 36 50.9	16.534
12	0 15 32.85	2.1478	2 20 18.0	16.569
13	0 17 41.75	2.1489	2 3 43.5	16.598
14	0 19 50.72	2.1501	1 47 7.4	16.613
15	0 21 59.77	2.1514	1 30 29.9	16.636
16	0 24 8.89	2.1528	1 13 51.1	16.657
17	0 26 18.10	2.1542	0 57 11.1	16.676
18	0 28 27.39	2.1556	0 40 30.0	16.694
19	0 30 36.77	2.1572	0 23 47.8	16.711
20	0 32 46.25	2.1589	S. 0 7 4.7	16.726
21	0 34 55.84	2.1607	N. 0 9 39.3	16.739
22	0 37 5.53	2.1625	0 26 24.0	16.751
23	0 39 15.34	2.1644	N. 0 43 9.4	16.762

MONDAY 23.

0	h m s	s	N. ° ' "	"
0	1 34 11.73	2.2393	7 40 35.4	16.446
1	1 36 26.21	2.2433	7 57 1.1	16.410
2	1 38 40.93	2.2474	8 13 24.6	16.372
3	1 40 55.90	2.2516	8 29 45.8	16.332
4	1 43 11.13	2.2559	8 46 4.5	16.290
5	1 45 26.61	2.2602	9 2 20.6	16.245
6	1 47 42.35	2.2645	9 18 33.9	16.198
7	1 49 58.35	2.2690	9 34 44.4	16.151
8	1 52 14.63	2.2736	9 50 52.0	16.101
9	1 54 31.18	2.2782	10 6 56.5	16.049
10	1 56 48.01	2.2828	10 22 57.9	15.995
11	1 59 5.12	2.2875	10 38 55.9	15.938
12	2 1 22.51	2.2922	10 54 50.5	15.881
13	2 3 40.19	2.2971	11 10 41.6	15.821
14	2 5 58.16	2.3020	11 26 29.0	15.758
15	2 8 16.43	2.3070	11 42 12.6	15.694
16	2 10 35.00	2.3120	11 57 52.3	15.628
17	2 12 53.87	2.3171	12 13 28.0	15.561
18	2 15 13.05	2.3222	12 28 59.6	15.491
19	2 17 32.54	2.3274	12 44 26.9	15.418
20	2 19 52.34	2.3326	12 59 49.8	15.343
21	2 22 12.45	2.3378	13 15 8.1	15.267
22	2 24 32.88	2.3432	13 30 21.8	15.189
23	2 26 53.63	2.3486	N. 13 45 30.8	15.109

SUNDAY 22.

0	h m s	s	N. ° ' "	"
0	0 41 25.26	2.1663	0 59 55.4	16.770
1	0 43 35.30	2.1694	1 16 41.8	16.776
2	0 45 45.47	2.1706	1 33 28.5	16.781
3	0 47 55.78	2.1729	1 50 15.5	16.785
4	0 50 6.22	2.1752	2 7 2.7	16.787
5	0 52 16.81	2.1777	2 23 49.9	16.786
6	0 54 27.55	2.1802	2 40 37.0	16.784
7	0 56 38.44	2.1827	2 57 24.0	16.781
8	0 58 49.48	2.1854	3 14 10.7	16.776
9	1 1 0.69	2.1882	3 30 57.1	16.769
10	1 3 12.07	2.1911	3 47 43.0	16.760
11	1 5 23.62	2.1940	4 4 28.3	16.749
12	1 7 35.35	2.1970	4 21 12.9	16.737
13	1 9 47.26	2.2001	4 37 56.7	16.723
14	1 11 59.36	2.2032	4 54 39.6	16.708
15	1 14 11.65	2.2065	5 11 21.6	16.691
16	1 16 24.14	2.2098	5 28 2.5	16.671
17	1 18 36.83	2.2132	5 44 42.1	16.648
18	1 20 49.73	2.2167	6 1 20.3	16.625
19	1 23 2.84	2.2203	6 17 57.1	16.600
20	1 25 16.17	2.2239	6 34 32.3	16.573
21	1 27 29.71	2.2276	6 51 5.9	16.545
22	1 29 43.48	2.2315	7 7 37.7	16.514
23	1 31 57.49	2.2354	7 24 7.6	16.481
24	1 34 11.73	2.2393	N. 7 40 35.4	16.446

TUESDAY 24.

0	h m s	s	N. ° ' "	"
0	2 29 14.71	2.3540	14 0 34.9	15.027
1	2 31 36.11	2.3594	14 15 34.0	14.942
2	2 33 57.84	2.3649	14 30 27.9	14.855
3	2 36 19.90	2.3704	14 45 16.6	14.767
4	2 38 42.29	2.3760	15 0 0.0	14.676
5	2 41 5.02	2.3816	15 14 37.8	14.583
6	2 43 28.08	2.3872	15 29 10.0	14.489
7	2 45 51.48	2.3929	15 43 36.5	14.392
8	2 48 15.22	2.3986	15 57 57.1	14.293
9	2 50 39.31	2.4043	16 12 11.7	14.192
10	2 53 3.74	2.4100	16 26 20.2	14.090
11	2 55 28.51	2.4157	16 40 22.5	13.985
12	2 57 53.62	2.4214	16 54 18.4	13.878
13	3 0 19.08	2.4272	17 8 7.9	13.769
14	3 2 44.89	2.4330	17 21 50.7	13.658
15	3 5 11.04	2.4388	17 35 26.8	13.545
16	3 7 37.54	2.4446	17 48 56.1	13.430
17	3 10 4.39	2.4503	18 2 18.4	13.312
18	3 12 31.58	2.4561	18 15 33.6	13.193
19	3 14 59.12	2.4618	18 28 41.6	13.072
20	3 17 27.00	2.4676	18 41 42.3	12.950
21	3 19 55.23	2.4733	18 54 35.6	12.825
22	3 22 23.80	2.4791	19 7 21.3	12.698
23	3 24 52.72	2.4849	19 19 59.3	12.569
24	3 27 21.99	2.4906	N. 19 32 29.6	12.439

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25.					FRIDAY 27.				
0	h m s	s	N. 19° 32' 29.6"	12.439	0	h m s	s	N. 26° 27' 50.7"	4.382
1	3 27 21.99	2.4906	19 44 52.0	12.306	1	5 32 14.86	2.6718	26 32 7.9	4.191
2	3 29 51.60	2.4902	19 57 6.3	12.171	2	5 34 55.19	2.6724	26 36 13.6	3.999
3	3 32 21.54	2.5018	20 9 12.5	12.035	3	5 27 35.55	2.6729	26 40 7.8	3.807
4	3 34 51.82	2.5075	20 21 10.5	11.897	4	5 40 15.94	2.6732	26 43 50.5	3.615
5	3 37 22.44	2.5131	20 33 0.1	11.757	5	5 42 56.33	2.6732	26 47 21.6	3.423
6	3 39 53.39	2.5186	20 44 41.3	11.615	6	5 45 36.72	2.6731	26 50 41.3	3.232
7	3 42 24.67	2.5241	20 56 13.9	11.471	7	5 48 17.10	2.6728	26 53 49.5	3.040
8	3 44 56.28	2.5296	21 7 37.8	11.326	8	5 50 57.46	2.6723	26 56 46.1	2.848
9	3 47 28.22	2.5350	21 18 53.0	11.179	9	5 53 37.78	2.6717	26 59 31.2	2.656
10	3 50 0.48	2.5403	21 29 59.3	11.030	10	5 56 18.06	2.6708	27 2 4.8	2.464
11	3 52 33.06	2.5456	21 40 56.6	10.879	11	5 58 58.28	2.6698	27 4 26.9	2.271
12	3 55 5.95	2.5508	21 51 44.8	10.727	12	6 1 38.44	2.6687	27 6 37.4	2.079
13	3 57 39.16	2.5561	22 2 23.8	10.573	13	6 4 18.52	2.6673	27 8 36.4	1.888
14	4 0 12.68	2.5612	22 12 53.5	10.417	14	6 6 58.52	2.6658	27 10 24.0	1.696
15	4 2 46.50	2.5663	22 23 13.8	10.259	15	6 9 38.42	2.6641	27 12 0.2	1.507
16	4 5 20.62	2.5711	22 33 24.6	10.101	16	6 12 18.21	2.6622	27 13 24.9	1.317
17	4 7 55.03	2.5760	22 43 25.9	9.941	17	6 14 57.88	2.6602	27 14 38.2	1.127
18	4 10 29.74	2.5809	22 53 17.5	9.778	18	6 17 37.43	2.6580	27 15 40.2	0.938
19	4 13 4.74	2.5857	23 2 59.3	9.615	19	6 20 16.84	2.6556	27 16 30.8	0.748
20	4 15 40.02	2.5903	23 12 31.3	9.450	20	6 22 56.10	2.6531	27 17 10.0	0.560
21	4 18 15.57	2.5948	23 21 53.3	9.283	21	6 25 35.21	2.6503	27 17 38.0	0.372
22	4 20 51.39	2.5992	23 31 5.3	9.116	22	6 28 14.14	2.6473	27 17 54.7	+ 0.185
23	4 23 27.47	2.6035	N. 23 40 7.2	8.947	23	6 30 52.89	2.6443	27 18 0.2	- 0.001
24	4 26 3.81	2.6078				6 33 31.46	2.6412		
THURSDAY 26.					SATURDAY 28.				
0	4 28 40.41	2.6120	N. 23 48 58.9	8.777	0	6 36 9.83	2.6377	N. 27 17 54.6	0.187
1	4 31 17.25	2.6160	23 57 40.4	8.605	1	6 38 47.99	2.6342	27 17 37.8	0.372
2	4 33 54.33	2.6200	24 6 11.5	8.431	2	6 41 25.93	2.6305	27 17 9.9	0.557
3	4 36 31.65	2.6238	24 14 32.1	8.256	3	6 44 3.65	2.6267	27 16 31.0	0.740
4	4 39 9.19	2.6275	24 22 42.2	8.081	4	6 46 41.13	2.6226	27 15 41.1	0.923
5	4 41 46.95	2.6310	24 30 41.8	7.905	5	6 49 18.36	2.6184	27 14 40.2	1.105
6	4 44 24.91	2.6344	24 38 30.8	7.727	6	6 51 55.34	2.6141	27 13 28.5	1.285
7	4 47 3.08	2.6378	24 46 9.1	7.548	7	6 54 32.05	2.6096	27 12 6.0	1.465
8	4 49 41.45	2.6410	24 53 36.6	7.368	8	6 57 8.49	2.6050	27 10 32.7	1.645
9	4 52 20.00	2.6440	25 0 53.3	7.187	9	6 59 44.65	2.6002	27 8 48.6	1.823
10	4 54 58.73	2.6470	25 7 59.1	7.006	10	7 2 20.52	2.5953	27 6 53.9	1.999
11	4 57 37.64	2.6498	25 14 54.0	6.823	11	7 4 56.09	2.5902	27 4 48.7	2.174
12	5 0 16.71	2.6524	25 21 37.9	6.640	12	7 7 31.35	2.5851	27 2 33.0	2.349
13	5 2 55.93	2.6549	25 28 10.8	6.455	13	7 10 6.30	2.5797	27 0 6.8	2.523
14	5 5 35.30	2.6572	25 34 32.5	6.269	14	7 12 40.92	2.5742	26 57 30.2	2.696
15	5 8 14.80	2.6594	25 40 43.1	6.083	15	7 15 15.21	2.5687	26 54 43.3	2.867
16	5 10 54.43	2.6614	25 46 42.5	5.897	16	7 17 49.17	2.5631	26 51 46.2	3.037
17	5 13 34.17	2.6632	25 52 30.7	5.709	17	7 20 22.78	2.5572	26 48 38.9	3.206
18	5 16 14.02	2.6650	25 58 7.6	5.521	18	7 22 56.04	2.5513	26 45 21.5	3.373
19	5 18 53.97	2.6666	26 3 33.2	5.332	19	7 25 28.94	2.5453	26 41 54.1	3.539
20	5 21 34.01	2.6680	26 8 47.5	5.143	20	7 28 1.48	2.5392	26 38 16.8	3.703
21	5 24 14.13	2.6692	26 13 50.4	4.953	21	7 30 33.64	2.5329	26 34 29.7	3.867
22	5 26 54.32	2.6703	26 18 41.9	4.763	22	7 33 5.42	2.5265	26 30 32.8	4.029
23	5 29 34.57	2.6712	26 23 22.0	4.573	23	7 35 36.82	2.5201	26 26 26.2	4.191
24	5 32 14.86	2.6718	N. 26 27 50.7	4.382	24	7 38 7.84	2.5136	N. 26 22 9.9	4.351

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 29.					TUESDAY 31.				
0	h m s	a	N.26° 22' 9.9"	"	0	h m s	a	N.20° 18' 27.2"	"
1	7 38 7.84	2.5136	26 17 44.1	4.351	1	9 30 12.81	2.1507	20 8 11.8	10.213
2	7 40 38.46	2.5069	26 13 8.9	4.508	2	9 32 21.63	2.1434	19 57 51.3	10.299
3	7 43 8.67	2.5002	26 8 24.4	4.664	3	9 34 30.01	2.1361	19 47 25.9	10.382
4	7 45 38.48	2.4933	26 3 30.6	4.819	4	9 36 37.96	2.1288	19 36 55.6	10.464
5	7 48 7.87	2.4864	25 58 27.6	4.973	5	9 38 45.47	2.1216	19 26 20.4	10.546
6	7 50 36.85	2.4795	25 53 15.5	5.126	6	9 40 52.55	2.1144	19 15 40.5	10.626
7	7 53 5.41	2.4724	25 47 54.4	5.277	7	9 42 59.20	2.1072	19 4 55.9	10.704
8	7 55 33.54	2.4653	25 42 24.4	5.426	8	9 45 5.42	2.1002	18 54 6.7	10.782
9	7 58 1.24	2.4581	25 36 45.6	5.573	9	9 47 11.22	2.0932	18 43 13.0	10.858
10	8 0 28.51	2.4508	25 30 58.1	5.719	10	9 49 16.60	2.0862	18 32 14.9	10.932
11	8 2 55.34	2.4434	25 25 1.9	5.864	11	9 51 21.56	2.0793	18 21 12.4	11.005
12	8 5 21.72	2.4360	25 18 57.2	6.007	12	9 53 26.11	2.0724	18 10 5.7	11.077
13	8 7 47.66	2.4286	25 12 44.0	6.149	13	9 55 30.25	2.0656	17 58 54.8	11.147
14	8 10 13.16	2.4212	25 6 22.5	6.289	14	9 57 33.98	2.0588	17 47 39.7	11.217
15	8 12 38.20	2.4136	24 59 52.7	6.428	15	9 59 37.31	2.0522	17 36 20.6	11.285
16	8 15 2.79	2.4060	24 53 14.7	6.565	16	10 1 40.24	2.0456	17 24 57.6	11.351
17	8 17 26.92	2.3983	24 46 28.7	6.700	17	10 3 42.78	2.0391	17 13 30.6	11.417
18	8 19 50.59	2.3907	24 39 34.7	6.833	18	10 5 44.93	2.0325	17 1 59.8	11.482
19	8 22 13.81	2.3831	24 32 32.8	6.966	19	10 7 46.68	2.0260	16 50 25.3	11.544
20	8 24 36.56	2.3754	24 25 23.1	7.097	20	10 9 48.05	2.0197	16 38 47.1	11.606
21	8 26 58.85	2.3676	24 18 5.7	7.226	21	10 11 49.04	2.0134	16 27 5.2	11.667
22	8 29 20.67	2.3598	24 10 40.7	7.353	22	10 13 49.66	2.0072	16 15 19.8	11.727
23	8 31 42.02	2.3520	N.24° 3' 8.2"	7.479	23	10 15 49.90	2.0010	15 51 38.6	11.786
	8 34 2.91	2.3442		7.603		10 17 49.78	1.9949	15 17 49.1	11.843
MONDAY 30.					WEDNESDAY JUNE 1.				
0	8 36 23.33	2.3364	N.23° 55' 28.3"	7.726	0	10 19 49.29	1.9888	N.15 51 38.6	11.900
1	8 38 43.28	2.3286	23 47 41.1	7.847	PHASES OF THE MOON.				
2	8 41 2.76	2.3207	23 39 46.6	7.967					
3	8 43 21.76	2.3128	23 31 45.0	8.086					
4	8 45 40.29	2.3049	23 23 36.3	8.202					
5	8 47 58.35	2.2971	23 15 20.7	8.317	☾ First Quarter . . . May 3 7 11.5 ☾ Full Moon 11 10 59.0 ☾ Last Quarter 19 2 52.6 ● New Moon 25 17 49.1 ☾ Apogee May 8 17.3 ☾ Perigee 24 4.5				
6	8 50 15.94	2.2892	23 6 58.3	8.430					
7	8 52 33.06	2.2814	22 58 29.1	8.542					
8	8 54 49.71	2.2735	22 49 53.2	8.652					
9	8 57 5.88	2.2656	22 41 10.8	8.761					
10	8 59 21.58	2.2578	22 32 21.9	8.868					
11	9 1 36.82	2.2501	22 23 26.6	8.974					
12	9 3 51.59	2.2423	22 14 25.0	9.078					
13	9 6 5.89	2.2345	22 5 17.2	9.181					
14	9 8 19.73	2.2267	21 56 3.3	9.282					
15	9 10 33.10	2.2190	21 46 43.3	9.382					
16	9 12 46.01	2.2113	21 37 17.4	9.480					
17	9 14 58.46	2.2036	21 27 45.7	9.577					
18	9 17 10.44	2.1959	21 18 8.2	9.672					
19	9 19 21.97	2.1883	21 8 25.0	9.766					
20	9 21 33.04	2.1807	20 58 36.3	9.858					
21	9 23 43.66	2.1732	20 48 42.1	9.949					
22	9 25 53.82	2.1657	20 38 42.4	10.039					
23	9 28 3.54	2.1582	20 28 37.4	10.127					
24	9 30 12.81	2.1507	N.20 18 27.2	10.213					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SUN W.	62° 12' 36"	9614	63° 46' 46"	9835	65° 20' 29"	9855	66° 53' 46"	9874
	Aldebaran W.	36 42 11	2591	38 21 19	9809	40 0 11	9615	41 38 46	9698
	VENUS W.	16 38 36	2811	18 12 50	9831	19 46 37	2851	21 19 59	2871
	Regulus E.	44 47 27	2523	43 6 46	2543	41 26 33	2564	39 46 49	2585
	SATURN E.	70 1 22	2489	68 19 43	2501	66 38 31	2520	64 57 45	2538
	Spica E.	98 48 19	2504	97 7 11	2523	95 26 30	2541	93 46 14	2560
2	SUN W.	74 33 56	2971	76 4 45	2990	77 35 10	3009	79 5 12	3026
	Aldebaran W.	49 47 3	2998	51 23 45	2713	53 0 7	2739	54 36 9	2743
	VENUS W.	29 0 35	2966	30 31 31	2985	32 2 3	3002	33 32 13	3021
	Regulus E.	31 35 28	2995	29 58 41	2719	28 22 26	2743	26 46 43	2768
	SATURN E.	56 40 15	2929	55 1 59	2946	53 24 7	2963	51 46 38	2981
	Spica E.	85 31 12	2950	83 53 25	2967	82 16 1	2985	80 39 1	2702
3	SUN W.	86 29 53	3114	87 57 46	3139	89 25 20	3146	90 52 34	3162
	Aldebaran W.	62 31 31	2815	64 5 39	2829	65 39 29	2843	67 13 1	2856
	VENUS W.	40 57 37	3105	42 25 40	3121	43 53 24	3137	45 20 49	3153
	Pollux W.	18 11 43	2790	19 46 24	2803	21 20 48	2815	22 54 56	2828
	SATURN E.	43 44 50	2762	42 9 32	2778	40 34 35	2793	38 59 58	2808
	Spica E.	72 39 34	2783	71 4 44	2798	69 30 14	2814	67 56 4	2828
4	SUN W.	98 4 14	3223	99 29 44	3247	100 54 58	3259	102 19 57	3271
	VENUS W.	52 33 30	3222	53 59 13	3235	55 24 41	3247	56 49 55	3259
	Pollux W.	30 41 30	2990	32 14 2	2901	33 46 20	2912	35 18 24	2923
	SATURN E.	31 11 32	2977	29 38 44	2991	28 6 13	2903	26 33 58	2915
	Spica E.	60 9 50	2997	58 37 27	2910	57 5 21	2922	55 33 30	2934
5	SUN W.	109 21 29	3396	110 45 10	3336	112 8 40	3345	113 32 0	3354
	VENUS W.	63 52 46	3312	65 16 44	3330	66 40 32	3329	68 4 10	3338
	Pollux W.	42 55 26	2972	44 26 14	2980	45 56 52	2989	47 27 19	2996
	Spica E.	47 57 52	2989	46 27 25	2998	44 57 10	3009	43 27 8	3018
	Antares E.	93 46 58	2971	92 16 9	2980	90 45 31	2969	89 15 4	2997
6	VENUS W.	75 0 4	3372	76 22 52	3378	77 45 34	3384	79 8 9	3388
	Pollux W.	54 57 19	3030	56 26 55	3035	57 56 24	3040	59 25 47	3046
	Regulus W.	19 1 56	3160	20 28 53	3148	21 56 5	3138	23 23 28	3133
	Spica E.	35 59 49	3062	34 30 53	3071	33 2 8	3079	31 33 33	3088
	Antares E.	81 45 10	3031	80 15 36	3037	78 46 9	3042	77 16 48	3047
7	Pollux W.	66 51 18	3065	68 20 11	3067	69 49 1	3069	71 17 48	3072
	Regulus W.	30 41 46	3117	32 9 35	3114	33 37 27	3114	35 5 20	3112
	Antares E.	69 51 29	3067	68 22 39	3069	66 53 52	3072	65 25 8	3074
8	Pollux W.	78 41 12	3077	80 9 50	3078	81 38 27	3078	83 7 4	3077
	Regulus W.	42 25 7	3106	43 53 9	3105	45 21 12	3103	46 49 18	3102
	Antares E.	58 2 4	3082	56 33 32	3082	55 5 0	3082	53 36 28	3082
9	Pollux W.	90 30 23	3072	91 59 7	3070	93 27 53	3068	94 56 42	3066
	Regulus W.	54 10 17	3091	55 38 37	3089	57 7 0	3087	58 35 26	3083
	SATURN E.	28 55 42	3069	30 24 30	3066	31 53 21	3064	33 22 15	3061
	Antares E.	46 13 43	3078	44 45 7	3078	43 16 30	3076	41 47 51	3074
	α Aquilæ E.	95 40 40	3910	94 27 30	3906	93 14 16	3901	92 0 57	3898

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN	W.	68° 26' 38"	2884	69° 59' 4"	2913	71° 31' 6"	2933	73° 2' 43"	2953
	Aldebaran	W.	43 17 3	2842	44 55 1	2855	46 32 41	2869	48 10 2	2884
	VENUS	W.	22 52 55	2891	24 25 26	2909	25 57 33	2928	27 29 16	2947
	Regulus	E.	38 7 34	2807	36 28 48	2829	34 50 32	2850	33 12 45	2872
	SATURN	E.	63 17 24	2556	61 37 29	2575	59 58 0	2593	58 18 55	2611
	Spica	E.	92 6 24	2578	90 26 59	2596	88 47 59	2614	87 9 23	2632
2	SUN	W.	80 34 52	3045	82 4 9	3062	83 33 5	3080	85 1 39	3096
	Aldebaran	W.	56 11 52	2758	57 47 15	2779	59 22 19	2787	60 57 4	2801
	VENUS	W.	35 2 0	3038	36 31 26	3056	38 0 30	3072	39 29 14	3089
	Regulus	E.	25 11 33	2795	23 36 58	2823	22 3 0	2854	20 29 42	2888
	SATURN	E.	50 9 32	2898	48 32 49	2714	46 56 28	2730	45 20 28	2747
	Spica	E.	79 2 24	2719	77 26 9	2735	75 50 16	2752	74 14 45	2767
3	SUN	W.	92 19 29	3177	93 46 6	3191	95 12 26	3206	96 38 28	3220
	Aldebaran	W.	68 46 16	2869	70 19 14	2883	71 51 55	2895	73 24 20	2907
	VENUS	W.	46 47 55	3167	48 14 44	3181	49 41 16	3195	51 7 31	3209
	Pollux	W.	24 28 47	2841	26 2 22	2854	27 35 40	2866	29 8 43	2878
	SATURN	E.	37 25 40	2822	35 51 41	2836	34 18 0	2850	32 44 37	2864
	Spica	E.	66 22 13	2842	64 48 40	2857	63 15 26	2870	61 42 29	2884
4	SUN	W.	103 44 42	3283	105 9 13	3294	106 33 31	3306	107 57 36	3316
	VENUS	W.	58 14 55	3270	59 39 41	3281	61 4 15	3292	62 28 36	3301
	Pollux	W.	36 50 14	2933	38 21 51	2943	39 53 15	2954	41 24 26	2963
	SATURN	E.	25 1 58	2927	23 30 14	2940	21 58 46	2952	20 27 33	2965
	Spica	E.	54 1 54	2946	52 30 33	2957	50 59 26	2967	49 28 32	2978
5	SUN	W.	114 55 9	3382	116 18 9	3370	117 41 0	3377	119 3 43	3385
	VENUS	W.	69 27 38	3347	70 50 57	3353	72 14 7	3360	73 37 9	3366
	Pollux	W.	48 57 37	3004	50 27 45	3010	51 57 45	3018	53 27 36	3024
	Spica	E.	41 57 18	3027	40 27 39	3037	38 58 12	3045	37 28 55	3054
	Antares	E.	87 44 47	3004	86 14 39	3012	84 44 41	3018	83 14 51	3026
6	VENUS	W.	80 30 39	3393	81 53 4	3397	83 15 24	3400	84 37 40	3405
	Pollux	W.	60 55 3	3050	62 24 14	3054	63 53 20	3058	65 22 21	3061
	Regulus	W.	24 50 53	3128	26 18 34	3124	27 46 15	3121	29 13 59	3119
	Spica	E.	30 5 9	3097	28 36 56	3106	27 8 54	3116	25 41 4	3126
	Antares	E.	75 47 34	3052	74 18 25	3056	72 49 22	3060	71 20 23	3064
7	Pollux	W.	72 46 32	3073	74 15 14	3074	75 43 55	3076	77 12 34	3077
	Regulus	W.	36 33 15	3111	38 1 11	3110	39 29 8	3109	40 57 7	3108
	Antares	E.	63 56 27	3076	62 27 48	3078	60 59 12	3079	59 30 37	3081
8	Pollux	W.	84 35 42	3076	86 4 21	3076	87 33 0	3074	89 1 41	3073
	Regulus	W.	48 17 25	3101	49 45 34	3098	51 13 46	3096	52 42 0	3094
	Antares	E.	52 7 56	3082	50 39 24	3081	49 10 51	3080	47 42 17	3080
9	Pollux	W.	96 25 33	3084	97 54 27	3080	99 23 25	3058	100 52 26	3056
	Regulus	W.	60 3 56	3081	61 32 29	3078	63 1 6	3074	64 29 47	3070
	SATURN	W.	34 51 12	3058	36 20 13	3056	37 49 17	3052	39 18 25	3048
	Antares	E.	40 19 10	3073	38 50 27	3070	37 21 41	3069	35 52 53	3066
	α Aquilæ	E.	90 47 35	3894	89 34 9	3892	88 20 41	3891	87 7 12	3889

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	Regulus	W.	65° 58' 33"	3067	67° 27' 23"	3064	68° 56' 17"	3059	70° 25' 17"	3056
	SATURN	W.	40 47 38	3045	42 16 55	3042	43 46 16	3038	45 15 42	3034
	Antares	E.	34 24 2	3084	32 55 8	3082	31 26 12	3080	29 57 14	3088
	α Aquilæ	E.	85 53 41	3889	84 40 10	3890	83 26 40	3892	82 13 12	3894
	MARS	E.	87 25 34	3222	86 0 3	3229	84 34 28	3225	83 8 48	3220
11	Regulus	W.	77 51 31	3033	79 21 3	3029	80 50 40	3024	82 20 23	3018
	SATURN	W.	52 44 4	3013	54 14 1	3009	55 44 3	3003	57 14 12	2998
	Spica	W.	23 56 14	3088	25 24 38	3075	26 53 18	3065	28 22 11	3054
	MARS	E.	75 59 13	3198	74 33 1	3193	73 6 44	3188	71 40 21	3183
	α Aquilæ	E.	76 6 45	3919	74 53 45	3927	73 40 53	3937	72 28 11	3948
12	SATURN	W.	64 46 31	2973	66 17 18	2966	67 48 13	2961	69 19 15	2955
	Spica	W.	35 49 31	3011	37 19 30	3003	38 49 39	2995	40 19 58	2988
	MARS	E.	64 26 46	3155	62 59 43	3149	61 32 33	3143	60 5 16	3137
	α Aquilæ	E.	66 27 50	4094	65 16 34	4044	64 5 38	4067	62 55 4	4090
	Fomalhaut	E.	93 31 18	3150	92 4 9	3143	90 36 52	3138	89 9 28	3132
13	SATURN	W.	76 56 19	2994	78 28 8	2917	80 0 5	2910	81 32 11	2904
	Spica	W.	47 53 54	2950	49 25 10	2942	50 56 36	2935	52 28 11	2927
	MARS	E.	52 46 54	3105	51 18 50	3098	49 50 38	3091	48 22 18	3084
	α Aquilæ	E.	57 8 57	4255	56 1 23	4297	54 54 28	4345	53 48 17	4386
	Fomalhaut	E.	81 50 47	3105	80 22 43	3100	78 54 33	3095	77 26 17	3091
14	Spica	W.	60 8 34	2987	61 41 9	2980	63 13 54	2972	64 46 49	2963
	MARS	E.	40 58 28	3048	39 29 15	3041	37 59 53	3034	36 30 22	3026
	Fomalhaut	E.	70 3 37	3070	68 34 51	3066	67 6 0	3063	65 37 5	3060
	α Pegasi	E.	90 29 37	3954	89 4 32	3947	87 39 19	3941	86 13 58	3934
15	Spica	W.	72 34 10	2990	74 8 12	2911	75 42 26	2902	77 16 51	2792
	Antares	W.	26 40 29	2988	28 14 20	2918	29 48 25	2907	31 22 44	2797
	Fomalhaut	E.	58 11 51	3053	56 42 44	3054	55 13 38	3055	53 44 33	3056
	α Pegasi	E.	79 5 26	3908	77 39 26	3904	76 13 21	3900	74 47 12	3198
	JUPITER	E.	98 43 32	2982	97 10 50	2973	95 37 57	2964	94 4 52	2954
16	Spica	W.	85 12 5	2744	86 47 46	2734	88 23 41	2723	89 59 50	2713
	Antares	W.	39 17 47	2743	40 53 30	2732	42 29 27	2722	44 5 38	2710
	Fomalhaut	E.	46 20 7	3083	44 51 37	3093	43 23 19	3105	41 55 16	3121
	α Pegasi	E.	67 35 50	3193	66 9 32	3193	64 43 15	3196	63 17 1	3200
	JUPITER	E.	86 16 20	2905	84 41 59	2795	83 7 25	2785	81 32 37	2774
17	Antares	W.	52 10 17	2654	53 47 59	2642	55 25 57	2630	57 4 11	2618
	α Pegasi	E.	56 7 26	3238	54 42 2	3251	53 16 53	3266	51 52 2	3284
	JUPITER	E.	73 35 2	2718	71 58 46	2707	70 22 15	2695	68 45 28	2683
	SUN	E.	116 15 14	2978	114 44 34	2966	113 13 39	2954	111 42 28	2941
18	Antares	W.	65 19 30	2556	66 59 25	2543	68 39 38	2530	70 20 9	2517
	JUPITER	E.	60 37 27	2621	58 59 0	2608	57 20 16	2595	55 41 14	2583
	SUN	E.	104 2 28	2875	102 29 37	2862	100 56 29	2848	99 23 3	2834
19	Antares	W.	78 47 17	2452	80 29 38	2438	82 12 19	2424	83 55 19	2411
	α Aquilæ	W.	43 13 57	4833	44 13 6	4670	45 14 31	4523	46 18 3	4387

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	Regulus	W.	71° 54' 21"	3052	73° 23' 30"	3047	74° 52' 45"	3043	76° 22' 5"	3038
	SATURN	W.	46 45 12	3030	48 14 47	3026	49 44 27	3022	51 14 13	3018
	Antares	E.	28 28 13	3056	26 59 10	3055	25 30 5	3053	24 0 58	3052
	α Aquilæ	E.	80 59 46	3897	79 46 23	3902	78 33 5	3907	77 19 52	3913
	MARS	E.	81 43 3	3917	80 17 14	3912	78 51 19	3908	77 25 19	3903
11	Regulus	W.	83 50 13	3014	85 20 9	3008	86 50 12	3003	88 20 21	2997
	SATURN	W.	58 44 27	2993	60 14 48	2988	61 45 16	2983	63 15 50	2977
	Spica	W.	29 51 17	3045	31 20 34	3035	32 50 3	3027	34 19 42	3019
	MARS	E.	70 13 51	3178	68 47 15	3172	67 20 32	3166	65 53 42	3161
	α Aquilæ	E.	71 15 40	3980	70 3 21	3973	68 51 15	3968	67 39 24	4006
12	SATURN	W.	70 50 24	2949	72 21 41	2942	73 53 6	2936	75 24 39	2931
	Spica	W.	41 50 26	2980	43 21 4	2973	44 51 51	2965	46 22 48	2958
	MARS	E.	58 37 51	3130	57 10 18	3124	55 42 38	3118	54 14 50	3111
	α Aquilæ	E.	61 44 53	4118	60 35 9	4147	59 25 53	4180	58 17 8	4216
	Fomalhaut	E.	87 41 57	3128	86 14 19	3121	84 46 35	3115	83 18 44	3110
13	SATURN	W.	83 4 25	2897	84 36 48	2890	86 9 20	2883	87 42 1	2875
	Spica	W.	53 59 56	2919	55 31 51	2912	57 3 55	2904	58 36 9	2896
	MARS	E.	46 53 49	3078	45 25 12	3070	43 56 26	3064	42 27 32	3056
	α Aquilæ	E.	52 42 52	4453	51 38 18	4514	50 34 38	4581	49 31 57	4657
	Fomalhaut	E.	75 57 56	3086	74 29 29	3082	73 0 57	3077	71 32 19	3073
14	Spica	W.	66 19 55	2855	67 53 12	2846	69 26 40	2838	71 0 19	2828
	MARS	E.	35 0 42	3019	33 30 53	3013	32 0 56	3005	30 30 50	2998
	Fomalhaut	E.	64 8 7	3058	62 39 6	3056	61 10 2	3055	59 40 57	3054
	α Pegasi	E.	84 48 29	3928	83 22 53	3922	81 57 10	3917	80 31 21	3912
15	Spica	W.	78 51 29	2783	80 26 19	2773	82 1 22	2764	83 36 37	2754
	Antares	W.	32 57 16	2788	34 32 2	2775	36 7 3	2764	37 42 18	2753
	Fomalhaut	E.	52 15 30	3060	50 46 31	3063	49 17 36	3068	47 48 47	3075
	α Pegasi	E.	73 21 0	3195	71 54 45	3193	70 28 28	3192	69 2 9	3192
	JUPITER	E.	92 31 34	2845	90 58 4	2835	89 24 22	2825	87 50 27	2816
16	Spica	W.	91 36 12	2703	93 12 48	2692	94 49 39	2681	96 26 44	2669
	Antares	W.	45 42 4	2700	47 18 44	2688	48 55 40	2677	50 32 51	2666
	Fomalhaut	E.	40 27 32	3139	39 0 10	3161	37 33 14	3187	36 6 49	3212
	α Pegasi	E.	61 50 52	3904	60 24 48	3910	58 58 51	3918	57 33 3	3927
	JUPITER	E.	79 57 35	2763	78 22 19	2752	76 46 48	2741	75 11 3	2729
17	Antares	W.	58 42 41	2606	60 21 28	2593	62 0 32	2582	63 39 52	2569
	α Pegasi	E.	50 27 32	3305	49 3 26	3330	47 39 49	3358	46 16 44	3390
	JUPITER	E.	67 8 25	2670	65 31 5	2658	63 53 29	2646	62 15 36	2634
	SUN	E.	110 11 1	2928	108 39 18	2915	107 7 18	2901	105 35 1	2889
18	Antares	W.	72 0 58	2504	73 42 5	2492	75 23 30	2478	77 5 14	2465
	JUPITER	E.	54 1 55	2569	52 22 17	2556	50 42 21	2543	49 2 7	2529
	SUN	E.	97 49 19	2920	96 15 17	2906	94 40 57	2792	93 6 18	2778
19	Antares	W.	85 38 38	2398	87 22 16	2384	89 6 14	2371	90 50 31	2357
	α Aquilæ	W.	47 23 36	4264	48 31 2	4150	49 40 16	4045	50 51 11	3949

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
19	MARS W.	21 47 12	9696	23 25 32	9607	25 4 18	9588	26 43 29	9571
	JUPITER E.	47 21 34	9515	45 40 42	9509	43 59 32	9489	42 18 3	9475
	SUN E.	91 31 21	9763	89 56 5	9749	88 20 30	9735	86 44 36	9730
20	α Aquilæ W.	52 3 41	9859	53 17 42	9777	54 33 8	9701	55 49 54	9630
	MARS W.	35 5 14	9489	36 46 42	9475	38 28 31	9460	40 10 41	9444
	JUPITER E.	33 45 53	9408	32 2 30	9396	30 18 49	9389	28 34 49	9371
	α Arietis E.	56 38 40	9456	54 56 25	9448	53 13 58	9440	51 31 20	9433
	SUN E.	78 40 17	9648	77 2 27	9634	75 24 18	9619	73 45 49	9606
21	α Aquilæ W.	62 31 20	9344	63 54 41	9397	65 18 56	9354	66 44 1	9314
	MARS W.	48 46 43	9374	50 30 55	9361	52 15 26	9348	54 0 16	9335
	Fomalhaut W.	26 8 2	9096	29 36 17	9093	31 6 38	9095	32 38 50	9098
	SUN E.	65 28 42	9537	63 48 20	9535	62 7 41	9519	60 26 44	9499
22	α Aquilæ W.	74 0 13	9055	75 29 18	9030	76 58 53	9008	78 28 56	9008
	MARS W.	62 48 52	9277	64 35 25	9266	66 22 14	9257	68 9 17	9247
	Fomalhaut W.	40 41 19	9560	42 21 9	9552	44 1 52	9488	45 43 22	9458
	SUN E.	51 57 48	9449	50 15 13	9432	48 32 24	9429	46 49 21	9413
23	MARS W.	77 7 52	9207	78 56 9	9200	80 44 36	9195	82 33 11	9190
	Fomalhaut W.	54 20 30	9342	56 5 29	9325	57 50 52	9310	59 36 37	9296
	α Pegasi W.	38 32 58	9302	39 59 5	9119	41 27 0	9033	42 56 32	9063
	SUN E.	38 11 3	9375	36 26 52	9369	34 42 33	9364	32 58 7	9359
24	Fomalhaut W.	68 29 44	9249	70 16 59	9243	72 4 22	9239	73 51 52	9236
	α Pegasi W.	50 43 20	9715	52 19 40	9681	53 56 45	9652	55 34 30	9636
	JUPITER W.	23 48 57	9118	25 39 28	9116	27 30 2	9115	29 20 39	9115
	SUN E.	24 14 40	9249	22 29 52	9250	20 45 5	9259	19 0 21	9256
27	SUN W.	17 27 31	9594	19 8 11	9536	20 48 34	9549	22 28 39	9563
	Regulus E.	64 33 39	9296	62 45 50	9240	60 58 22	9256	59 11 17	9270
	SATURN E.	89 24 46	9210	87 36 34	9225	85 48 44	9239	84 1 15	9254
28	SUN W.	30 43 58	9642	32 21 56	9680	33 59 30	9678	35 36 40	9695
	Regulus E.	50 21 42	9354	48 37 1	9373	46 52 47	9391	45 8 59	9410
	SATURN E.	75 9 28	9333	73 24 17	9350	71 39 31	9367	69 55 9	9384
	Spica E.	104 23 50	9242	102 38 51	9258	100 54 16	9275	99 10 5	9292
29	SUN W.	43 36 24	9789	45 11 6	9806	46 45 24	9828	48 19 16	9846
	Regulus E.	36 36 56	9511	34 55 58	9533	33 15 30	9555	31 35 33	9578
	SATURN E.	61 19 36	9473	59 37 45	9492	57 56 20	9510	56 15 20	9528
	Spica E.	90 35 22	9480	88 53 40	9498	87 12 24	9516	85 31 33	9534
30	SUN W.	56 2 29	9242	57 33 54	9261	59 4 56	9280	60 35 34	9298
	SATURN E.	47 56 40	9618	46 18 10	9637	44 40 5	9655	43 2 24	9672
	Spica E.	77 13 31	9694	75 35 8	9642	73 57 10	9659	72 19 35	9677
31	SUN W.	68 3 3	9088	69 31 27	9105	70 59 30	9122	72 27 13	9139
	Pollux W.	26 33 35	9759	28 8 57	9773	29 44 0	9798	31 18 44	9802
	SATURN E.	34 59 48	9758	33 24 25	9774	31 49 23	9791	30 14 43	9808
	Spica E.	64 17 29	9762	62 42 11	9778	61 7 14	9794	59 32 38	9810

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
19	MARS	W.	28° 23' 4"	9554	30° 3' 2"	9537	31° 43' 24"	9591	33° 24' 8"	9505
	JUPITER	E.	40 36 15	9469	38 54 8	9448	37 11 42	9435	35 28 57	9492
	SUN	E.	85 8 23	9706	83 31 51	9691	81 54 59	9677	80 17 48	9669
20	α Aquilæ	W.	57 7 56	9565	58 27 9	9503	59 47 30	9446	61 8 55	9393
	MARS	W.	41 53 13	9430	43 36 5	9415	45 19 18	9401	47 2 51	9389
	JUPITER	E.	26 50 32	9358	25 5 57	9346	23 21 5	9335	21 35 56	9394
	α Arietis	E.	49 48 33	9497	48 5 37	9493	46 22 35	9419	44 39 28	9417
	SUN	E.	72 7 2	9591	70 27 55	9578	68 48 30	9564	67 8 45	9551
21	α Aquilæ	W.	68 9 53	9178	69 36 29	9143	71 3 46	9119	72 31 41	9089
	MARS	W.	55 45 24	9323	57 30 50	9311	59 16 34	9299	61 2 35	9286
	Fomalhaut	W.	34 12 41	9761	35 48 0	9701	37 24 38	9649	39 2 27	9609
	SUN	E.	58 45 30	9487	57 3 59	9475	55 22 11	9464	53 40 7	9453
22	α Aquilæ	W.	79 59 24	9909	81 30 15	9953	83 1 27	9939	84 32 57	9997
	MARS	W.	69 56 35	9238	71 44 6	9229	73 31 50	9222	75 19 45	9214
	Fomalhaut	W.	47 25 35	9499	49 8 28	9404	50 51 57	9389	52 35 58	9360
	SUN	E.	45 6 5	9404	43 22 36	9396	41 38 56	9389	39 55 5	9381
23	MARS	W.	84 21 54	9185	86 10 44	9181	87 59 40	9178	89 48 41	9176
	Fomalhaut	W.	61 22 43	9993	63 9 7	9973	64 55 46	9964	66 42 39	9956
	α Pegasi	W.	44 27 31	9901	45 59 49	9845	47 33 18	9797	49 7 50	9753
	SUN	E.	31 13 34	9356	29 28 56	9353	27 44 13	9350	25 59 27	9350
24	Fomalhaut	W.	75 39 26	9934	77 27 3	9933	79 14 42	9933	81 2 20	9934
	α Pegasi	W.	57 12 50	9903	58 51 41	9883	60 31 0	9866	62 10 42	9859
	JUPITER	W.	31 11 16	9115	33 1 53	9116	34 52 28	9118	36 43 0	9120
	SUN	E.	17 15 43	9369	15 31 13	9369	13 46 54	9360	12 2 50	9393
27	SUN	W.	24 8 25	9577	25 47 51	9593	27 26 55	9609	29 5 38	9696
	Regulus	E.	57 24 34	9297	55 38 15	9309	53 52 19	9390	52 6 48	9337
	SATURN	E.	82 14 8	9269	80 27 23	9265	78 41 1	9301	76 55 3	9317
28	SUN	W.	37 13 26	9714	38 49 47	9739	40 25 44	9751	42 1 16	9789
	Regulus	E.	43 25 39	9499	41 42 46	9449	40 0 21	9469	38 18 24	9489
	SATURN	E.	68 11 12	9492	66 27 40	9419	64 44 33	9438	63 1 52	9455
	Spica	E.	97 26 19	9410	95 42 58	9496	94 0 1	9444	92 17 29	9469
29	SUN	W.	49 52 44	9866	51 25 47	9885	52 58 25	9904	54 30 39	9923
	Regulus	E.	29 56 8	9609	28 17 16	9697	26 38 58	9654	25 1 16	9691
	SATURN	E.	54 34 46	9546	52 54 37	9564	51 14 53	9583	49 35 34	9601
	Spica	E.	83 51 7	9552	82 11 6	9570	80 31 30	9588	78 52 18	9606
30	SUN	W.	62 5 49	9017	63 35 41	9035	65 5 10	9053	66 34 17	9070
	SATURN	E.	41 25 6	9689	39 48 12	9707	38 11 41	9794	36 35 33	9741
	Spica	E.	70 42 24	9694	69 5 36	9711	67 29 11	9729	65 53 9	9745
31	SUN	W.	73 54 35	9155	75 21 38	9171	76 48 22	9186	78 14 48	9202
	Pollux	W.	32 53 9	9817	34 27 15	9831	36 1 3	9845	37 34 33	9858
	SATURN	E.	28 40 25	9823	27 6 27	9839	25 32 50	9855	23 59 33	9871
	Spica	E.	57 58 21	9825	56 24 28	9841	54 50 53	9855	53 17 37	9870

AT GREENWICH APPARENT NOON

AT GREENWICH APPARENT NOON										
Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.		Added to Apparent Time.		
Wed.	1	^h 4 ^m 39 ^s 23.64	10.244	N. 22° 9' 43.6"	+19.69	15' 48".25	68.45	^m 2 ^s 19.19	^s 0.387	
Thur.	2	4 43 29.69	10.259	22 17 24.7	18.72	15 48.12	68.50	2 9.74	0.402	
Frid.	3	4 47 36.09	10.273	22 24 42.4	17.74	15 48.00	68.55	1 59.93	0.416	
Sat.	4	4 51 42.82	10.286	22 31 36.6	+16.76	15 47.88	68.60	1 49.79	0.429	
SUN.	5	4 55 49.86	10.299	22 38 7.2	15.77	15 47.77	68.65	1 39.33	0.442	
Mon.	6	4 59 57.21	10.311	22 44 13.9	14.78	15 47.66	68.69	1 28.57	0.454	
Tues.	7	5 4 4.84	10.323	22 49 56.6	+13.77	15 47.55	68.73	1 17.53	0.466	
Wed.	8	5 8 12.73	10.334	22 55 15.3	12.77	15 47.45	68.77	1 6.23	0.477	
Thur.	9	5 12 20.88	10.344	23 0 9.9	11.77	15 47.35	68.81	0 54.67	0.487	
Frid.	10	5 16 29.27	10.353	23 4 40.2	+10.76	15 47.25	68.84	0 42.88	0.496	
Sat.	11	5 20 37.87	10.362	23 8 46.1	9.75	15 47.15	68.87	0 30.87	0.505	
SUN.	12	5 24 46.66	10.370	23 12 27.7	8.73	15 47.05	68.90	0 18.67	0.513	
Mon.	13	5 28 55.64	10.377	23 15 44.9	+ 7.71	15 46.96	68.92	0 6.28	0.520	
Tues.	14	5 33 4.78	10.383	23 18 37.6	6.68	15 46.87	68.94	0 6.26	0.526	
Wed.	15	5 37 14.05	10.389	23 21 5.6	5.65	15 46.79	68.95	0 18.94	0.532	
Thur.	16	5 41 23.44	10.393	23 23 8.9	+ 4.62	15 46.71	68.96	0 31.74	0.536	
Frid.	17	5 45 32.93	10.397	23 24 47.6	3.59	15 46.64	68.97	0 44.64	0.540	
Sat.	18	5 49 42.50	10.399	23 26 1.5	2.56	15 46.57	68.97	0 57.62	0.542	
SUN.	19	5 53 52.12	10.401	23 26 50.6	+ 1.53	15 46.50	68.97	1 10.65	0.544	
Mon.	20	5 58 1.77	10.401	23 27 14.9	+ 0.50	15 46.44	68.97	1 23.70	0.544	
Tues.	21	6 2 11.43	10.401	23 27 14.4	- 0.54	15 46.38	68.97	1 36.76	0.544	
Wed.	22	6 6 21.05	10.399	23 26 49.1	- 1.57	15 46.33	68.96	1 49.78	0.542	
Thur.	23	6 10 30.61	10.397	23 25 58.9	2.61	15 46.28	68.95	2 2.75	0.540	
Frid.	24	6 14 40.10	10.393	23 24 44.0	3.64	15 46.24	68.94	2 15.64	0.536	
Sat.	25	6 18 49.48	10.388	23 23 4.3	- 4.67	15 46.21	68.92	2 28.43	0.531	
SUN.	26	6 22 58.72	10.381	23 20 59.9	5.70	15 46.18	68.90	2 41.08	0.524	
Mon.	27	6 27 7.80	10.374	23 18 30.8	6.72	15 46.16	68.87	2 53.57	0.517	
Tues.	28	6 31 16.68	10.365	23 15 37.1	- 7.74	15 46.14	68.84	3 5.86	0.508	
Wed.	29	6 35 25.35	10.356	23 12 18.9	8.75	15 46.13	68.82	3 17.94	0.499	
Thur.	30	6 39 33.78	10.345	23 8 36.3	9.77	15 46.12	68.79	3 29.77	0.488	
Frid.	31	6 43 41.94	10.334	N. 23 4 29.4	-10.78	15 46.12	68.75	3 41.34	0.477	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0".18 from the sideral time.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing;
the sign - indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

AT GREENWICH MEAN NOON.								
Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
						Subtracted from Mean Time.		
Wed.	1	^h 4 ^m 39 ^s 24.05	10.243	N.22° 9' 44.4"	+19.69	^m 2 ^s 19.18	0.387	^h 4 ^m 41 ^s 43.23
Thur.	2	4 43 30.06	10.258	22 17 25.4	18.72	2 9.73	0.402	4 45 39.79
Frid.	3	4 47 36.43	10.272	22 24 43.0	17.74	1 59.92	0.416	4 49 36.35
Sat.	4	4 51 43.13	10.285	22 31 37.1	+16.76	1 49.78	0.429	4 53 32.91
SUN.	5	4 55 50.14	10.298	22 38 7.6	15.77	1 39.32	0.442	4 57 29.46
Mon.	6	4 59 57.46	10.310	22 44 14.2	14.78	1 28.56	0.454	5 1 26.02
Tues.	7	5 4 5.06	10.322	22 49 56.9	+13.78	1 17.52	0.466	5 5 22.58
Wed.	8	5 8 12.92	10.333	22 55 15.6	12.77	1 6.22	0.477	5 9 19.14
Thur.	9	5 12 21.04	10.343	23 0 10.1	11.77	0 54.66	0.487	5 13 15.70
Frid.	10	5 16 29.39	10.352	23 4 40.3	+10.76	0 42.87	0.496	5 17 12.26
Sat.	11	5 20 37.95	10.361	23 8 46.2	9.75	0 30.86	0.505	5 21 8.81
SUN.	12	5 24 46.71	10.369	23 12 27.8	8.73	0 18.66	0.513	5 25 5.37
Mon.	13	5 28 55.65	10.376	23 15 45.0	+ 7.71	0 6.28	0.520	5 29 1.93
Tues.	14	5 33 4.75	10.382	23 18 37.6	6.68	0 6.26	0.526	5 32 58.49
Wed.	15	5 37 13.99	10.388	23 21 5.6	5.65	0 18.94	0.532	5 36 55.05
Thur.	16	5 41 23.35	10.392	23 23 8.9	+ 4.62	0 31.74	0.536	5 40 51.61
Frid.	17	5 45 32.81	10.396	23 24 47.6	3.59	0 44.64	0.540	5 44 48.17
Sat.	18	5 49 42.34	10.398	23 26 1.5	2.56	0 57.61	0.542	5 48 44.73
SUN.	19	5 53 51.92	10.400	23 26 50.6	+ 1.53	1 10.64	0.544	5 52 41.28
Mon.	20	5 58 1.53	10.400	23 27 14.9	+ 0.50	1 23.69	0.544	5 56 37.84
Tues.	21	6 2 11.15	10.400	23 27 14.4	- 0.54	1 36.75	0.544	6 0 34.40
Wed.	22	6 6 20.73	10.398	23 26 49.1	- 1.57	1 49.77	0.542	6 4 30.96
Thur.	23	6 10 30.26	10.396	23 25 59.0	2.61	2 2.74	0.540	6 8 27.52
Frid.	24	6 14 39.71	10.392	23 24 44.1	3.64	2 15.63	0.536	6 12 24.08
Sat.	25	6 18 49.05	10.387	23 23 4.5	- 4.67	2 28.42	0.531	6 16 20.63
SUN.	26	6 22 58.26	10.380	23 21 0.1	5.70	2 41.07	0.524	6 20 17.19
Mon.	27	6 27 7.30	10.373	23 18 31.1	6.72	2 53.55	0.517	6 24 13.75
Tues.	28	6 31 16.15	10.364	23 15 37.5	- 7.74	3 5.84	0.508	6 28 10.31
Wed.	29	6 35 24.78	10.355	23 12 19.4	8.75	3 17.91	0.499	6 32 6.87
Thur.	30	6 39 33.17	10.344	23 8 36.9	9.77	3 29.74	0.488	6 36 3.43
Frid.	31	6 43 41.30	10.333	N.23 4 30.1	-10.78	3 41.31	0.477	6 39 59.99

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing; the sign — indicates that north declinations are decreasing.

Diff. for 1 hour, +9.8565.
(Table III.)

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing; the sign — indicates that north declinations are decreasing.

Diff. for 1 hour,
+ 9".8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.	
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	153	71° 24' 5.8"	23° 57.9"	143.65	+ 0.75	0.0062523	+24.5	^h 19 ^m 15 ^s 7.02	
2	154	72 21 32.8	21 24.7	143.60	0.71	0.0063101	23.7	19 11 11.11	
3	155	73 18 58.5	18 50.2	143.55	0.64	0.0063660	22.9	19 7 15.19	
4	156	74 16 23.0	16 14.5	143.50	+ 0.55	0.0064201	+22.2	19 3 19.27	
5	157	75 13 46.4	13 37.7	143.45	0.44	0.0064727	21.6	18 59 23.36	
6	158	76 11 8.7	10 59.8	143.41	0.32	0.0065238	21.0	18 55 27.45	
7	159	77 8 29.9	8 20.8	143.37	+ 0.19	0.0065734	+20.4	18 51 31.54	
8	160	78 5 50.1	5 40.9	143.33	+ 0.05	0.0066216	19.8	18 47 35.62	
9	161	79 3 9.6	3 0.2	143.30	— 0.08	0.0066684	19.3	18 43 39.71	
10	162	80 0 28.4	0 18.8	143.27	— 0.19	0.0067140	+18.7	18 39 43.80	
11	163	80 57 46.4	57 36.7	143.24	0.28	0.0067583	18.2	18 35 47.88	
12	164	81 55 3.8	54 53.9	143.22	0.35	0.0068012	17.6	18 31 51.97	
13	165	82 52 20.6	52 10.5	143.20	— 0.39	0.0068426	+16.9	18 27 56.06	
14	166	83 49 37.0	49 26.7	143.18	0.40	0.0068825	16.3	18 24 0.15	
15	167	84 46 53.1	46 42.6	143.17	0.38	0.0069209	15.7	18 20 4.24	
16	168	85 44 8.9	43 58.2	143.16	— 0.33	0.0069576	+14.9	18 16 8.32	
17	169	86 41 24.5	41 13.6	143.15	0.25	0.0069925	14.1	18 12 12.41	
18	170	87 38 39.8	38 28.7	143.14	0.14	0.0070254	13.2	18 8 16.50	
19	171	88 35 54.9	35 43.6	143.13	— 0.02	0.0070562	+12.3	18 4 20.59	
20	172	89 33 9.9	32 58.5	143.12	+ 0.11	0.0070846	11.3	18 0 24.67	
21	173	90 30 24.8	30 13.2	143.12	0.24	0.0071106	10.3	17 56 28.76	
22	174	91 27 39.4	27 27.6	143.11	+ 0.37	0.0071342	+ 9.3	17 52 32.85	
23	175	92 24 53.8	24 41.8	143.10	0.49	0.0071552	8.2	17 48 36.94	
24	176	93 22 8.0	21 55.8	143.09	0.60	0.0071736	7.1	17 44 41.02	
25	177	94 19 22.0	19 9.6	143.08	+ 0.68	0.0071893	+ 6.0	17 40 45.11	
26	178	95 16 35.7	16 23.1	143.07	0.74	0.0072023	4.9	17 36 49.20	
27	179	96 13 49.1	13 36.3	143.06	0.77	0.0072128	3.8	17 32 53.29	
28	180	97 11 2.2	10 49.2	143.05	+ 0.77	0.0072207	+ 2.8	17 28 57.37	
29	181	98 8 15.0	8 1.8	143.03	0.73	0.0072261	1.8	17 25 1.46	
30	182	99 5 27.5	5 14.1	143.02	0.66	0.0072291	+ 0.8	17 21 5.55	
31	183	100 2 39.6	2 26.0	143.00	+ 0.58	0.0072298	— 0.1	17 17 9.64	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 1 st 0.								Diff. for 1 Hour, — 9 ^h .8296. (Table II.)	

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 10.3	15' 5.1	55' 34.1	-1.69	55' 14.9	-1.51	5 48.6	1.85	6.3
2	15 0.5	14 56.5	54 58.0	1.31	54 43.5	1.11	6 31.4	1.73	7.3
3	14 53.2	14 50.6	54 31.4	0.90	54 21.9	0.70	7 11.8	1.66	8.3
4	14 48.7	14 47.4	54 14.8	-0.49	54 10.2	-0.30	7 51.2	1.64	9.3
5	14 46.8	14 46.8	54 7.8	-0.11	54 7.7	+0.08	8 30.6	1.67	10.3
6	14 47.3	14 48.3	54 9.6	+0.25	54 13.5	0.40	9 11.1	1.74	11.3
7	14 49.9	14 51.9	54 19.2	+0.55	54 26.5	+0.67	9 54.0	1.84	12.3
8	14 54.3	14 57.0	54 35.3	0.79	54 45.3	0.88	10 39.8	1.98	13.3
9	15 0.0	15 3.3	54 56.4	0.97	55 8.4	1.04	11 29.0	2.12	14.3
10	15 6.8	15 10.5	55 21.3	+1.10	55 34.7	+1.14	12 21.5	2.24	15.3
11	15 14.2	15 18.2	55 48.6	1.18	56 3.0	1.21	13 16.4	2.31	16.3
12	15 22.2	15 26.2	56 17.7	1.24	56 32.5	1.25	14 12.2	2.31	17.3
13	15 30.3	15 34.4	56 47.6	+1.27	57 2.8	+1.27	15 7.1	2.25	18.3
14	15 38.6	15 42.7	57 18.0	1.28	57 33.3	1.28	16 0.0	2.16	19.3
15	15 46.9	15 51.0	57 48.6	1.27	58 3.8	1.27	16 50.7	2.07	20.3
16	15 55.2	15 59.2	58 18.9	+1.25	58 33.7	+1.21	17 39.5	2.01	21.3
17	16 3.1	16 6.8	58 48.0	1.17	59 1.8	1.12	18 27.3	2.00	22.3
18	16 10.4	16 13.6	59 14.7	1.04	59 26.6	0.94	19 15.4	2.04	23.3
19	16 16.4	16 18.8	59 37.0	+0.80	59 45.8	+0.65	20 5.4	2.15	24.3
20	16 20.7	16 21.9	59 52.6	0.48	59 57.1	+0.27	20 58.4	2.28	25.3
21	16 22.4	16 22.2	59 59.1	+0.05	59 58.2	-0.20	21 54.9	2.46	26.3
22	16 21.2	16 19.3	59 54.4	-0.45	59 47.5	-0.70	22 55.2	2.55	27.3
23	16 16.6	16 13.1	59 37.6	0.95	59 24.9	1.18	23 57.3	2.58	28.3
24	16 8.9	16 4.0	59 9.4	1.40	58 51.5	1.59	♄		29.3
25	15 58.6	15 52.7	58 31.5	-1.73	58 10.0	-1.84	0 59.1	2.51	0.9
26	15 46.6	15 40.2	57 47.4	1.92	57 24.1	1.95	1 57.7	2.34	1.9
27	15 33.8	15 27.6	57 0.6	1.95	56 37.5	1.90	2 51.6	2.14	2.9
28	15 21.5	15 15.7	56 15.1	-1.82	55 53.8	-1.71	3 40.6	1.96	3.9
29	15 10.2	15 5.3	55 33.9	1.58	55 15.8	1.43	4 25.7	1.81	4.9
30	15 0.9	14 57.2	54 59.7	1.25	54 45.9	1.05	5 7.6	1.71	5.9
31	14 54.1	14 51.7	54 34.6	-0.85	54 25.7	-0.64	5 47.7	1.66	6.9

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	10 19 49.29	1.9888	N. 15 51 38.6	11.900	0	11 49 46.51	1.7891	N. 5 34 33.3	13.475
1	10 21 48.44	1.9889	15 39 42.9	11.955	1	11 51 33.79	1.7868	5 21 4.4	13.488
2	10 23 47.24	1.9770	15 27 44.0	12.009	2	11 53 20.93	1.7846	5 7 34.7	13.501
3	10 25 45.68	1.9712	15 15 41.9	12.063	3	11 55 7.94	1.7825	4 54 4.3	13.512
4	10 27 43.78	1.9655	15 3 36.6	12.113	4	11 56 54.83	1.7805	4 40 33.2	13.523
5	10 29 41.54	1.9598	14 51 28.3	12.163	5	11 58 41.60	1.7785	4 27 1.5	13.533
6	10 31 38.96	1.9542	14 39 17.0	12.213	6	12 0 28.25	1.7767	4 13 20.2	13.543
7	10 33 36.04	1.9487	14 27 2.7	12.262	7	12 2 14.80	1.7749	3 59 56.3	13.552
8	10 35 32.80	1.9433	14 14 45.5	12.310	8	12 4 1.24	1.7732	3 46 23.0	13.559
9	10 37 29.24	1.9380	14 2 25.5	12.357	9	12 5 47.58	1.7716	3 32 49.2	13.566
10	10 39 25.36	1.9327	13 50 2.7	12.402	10	12 7 33.83	1.7700	3 19 15.0	13.573
11	10 41 21.16	1.9274	13 37 37.2	12.447	11	12 9 19.98	1.7684	3 5 40.4	13.580
12	10 43 16.65	1.9222	13 25 9.1	12.490	12	12 11 6.04	1.7670	2 52 5.4	13.586
13	10 45 11.83	1.9172	13 12 38.4	12.532	13	12 12 52.02	1.7658	2 38 30.1	13.590
14	10 47 6.71	1.9122	13 0 5.2	12.574	14	12 14 37.93	1.7646	2 24 54.6	13.593
15	10 49 1.30	1.9073	12 47 29.5	12.615	15	12 16 23.77	1.7634	2 11 18.9	13.597
16	10 50 55.59	1.9025	12 34 51.4	12.655	16	12 18 9.54	1.7623	1 57 43.0	13.600
17	10 52 49.60	1.8977	12 22 10.9	12.694	17	12 19 55.25	1.7612	1 44 6.9	13.603
18	10 54 43.32	1.8930	12 9 28.1	12.732	18	12 21 40.89	1.7602	1 30 30.7	13.603
19	10 56 36.76	1.8884	11 56 43.0	12.769	19	12 23 26.48	1.7594	1 16 54.5	13.604
20	10 58 29.93	1.8839	11 43 55.8	12.804	20	12 25 12.02	1.7587	1 3 18.2	13.605
21	11 0 22.83	1.8794	11 31 6.5	12.839	21	12 26 57.52	1.7580	0 49 41.9	13.604
22	11 2 15.46	1.8751	11 18 15.1	12.874	22	12 28 42.98	1.7573	0 36 5.7	13.603
23	11 4 7.84	1.8708	N. 11 5 21.6	12.907	23	12 30 28.40	1.7567	N. 0 22 29.6	13.601
THURSDAY 2.					SATURDAY 4.				
0	11 5 59.96	1.8686	N. 10 52 26.2	12.939	0	12 32 13.79	1.7562	N. 0 8 53.6	13.598
1	11 7 51.83	1.8694	10 39 28.9	12.971	1	12 33 59.15	1.7558	S. 0 4 42.2	13.595
2	11 9 43.45	1.8583	10 26 29.7	13.002	2	12 35 44.49	1.7555	0 18 17.8	13.592
3	11 11 34.83	1.8544	10 13 28.7	13.032	3	12 37 29.81	1.7552	0 31 53.2	13.587
4	11 13 25.98	1.8506	10 0 25.9	13.061	4	12 39 15.12	1.7551	0 45 28.3	13.582
5	11 15 16.90	1.8467	9 47 21.4	13.089	5	12 41 0.42	1.7549	0 59 3.0	13.576
6	11 17 7.58	1.8429	9 34 15.2	13.116	6	12 42 45.71	1.7548	1 12 37.4	13.570
7	11 18 58.04	1.8392	9 21 7.4	13.142	7	12 44 31.00	1.7549	1 26 11.4	13.563
8	11 20 48.29	1.8357	9 7 58.1	13.168	8	12 46 16.30	1.7550	1 39 44.9	13.555
9	11 22 38.32	1.8322	8 54 47.2	13.194	9	12 48 1.60	1.7551	1 53 18.0	13.547
10	11 24 28.15	1.8287	8 41 34.8	13.218	10	12 49 46.91	1.7553	2 6 50.6	13.538
11	11 26 17.77	1.8253	8 28 21.0	13.241	11	12 51 32.24	1.7557	2 20 22.6	13.528
12	11 28 7.19	1.8221	8 15 5.9	13.264	12	12 53 17.60	1.7562	2 33 54.0	13.518
13	11 29 56.42	1.8189	8 1 49.4	13.286	13	12 55 2.99	1.7567	2 47 24.8	13.507
14	11 31 45.46	1.8158	7 48 31.6	13.307	14	12 56 48.40	1.7571	3 0 54.9	13.496
15	11 33 34.32	1.8128	7 35 12.6	13.327	15	12 58 33.84	1.7577	3 14 24.3	13.484
16	11 35 23.00	1.8098	7 21 52.4	13.346	16	13 0 19.32	1.7584	3 27 53.0	13.471
17	11 37 11.50	1.8069	7 8 31.1	13.364	17	13 2 4.85	1.7592	3 41 20.8	13.457
18	11 38 59.83	1.8041	6 55 8.7	13.382	18	13 3 50.43	1.7601	3 54 47.8	13.443
19	11 40 47.99	1.8014	6 41 45.2	13.400	19	13 5 36.06	1.7610	4 8 14.0	13.428
20	11 42 36.00	1.7988	6 28 20.7	13.417	20	13 7 21.75	1.7619	4 21 39.2	13.412
21	11 44 23.85	1.7962	6 14 55.2	13.433	21	13 9 7.49	1.7629	4 35 3.5	13.396
22	11 46 11.55	1.7937	6 1 28.7	13.448	22	13 10 53.30	1.7641	4 48 26.8	13.379
23	11 47 59.10	1.7913	5 48 1.4	13.462	23	13 12 39.18	1.7653	5 1 49.0	13.362
24	11 49 46.51	1.7891	N. 5 34 33.3	13.475	24	13 14 25.14	1.7666	S. 5 15 10.2	13.344

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	^h 13 ^m 14 ^s 25.14	1.7666	S. 5° 15' 10.2"	13.344	0	^h 14 ^m 41 ^s 56.80	1.9048	S. 15° 21' 4.2"	11.602
1	13 16 11.17	1.7678	5 28 30.3	13.325	1	14 43 51.22	1.9092	15 32 38.6	11.546
2	13 17 57.28	1.7692	5 41 49.2	13.305	2	14 45 45.90	1.9135	15 44 9.7	11.489
3	13 19 43.48	1.7707	5 55 6.9	13.285	3	14 47 40.84	1.9179	15 55 37.3	11.431
4	13 21 29.77	1.7723	6 8 23.4	13.264	4	14 49 36.05	1.9225	16 7 1.4	11.372
5	13 23 16.16	1.7739	6 21 38.6	13.243	5	14 51 31.54	1.9271	16 18 21.9	11.311
6	13 25 2.64	1.7756	6 34 52.6	13.222	6	14 53 27.30	1.9316	16 29 38.7	11.249
7	13 26 49.23	1.7773	6 48 5.2	13.198	7	14 55 23.33	1.9362	16 40 51.8	11.187
8	13 28 35.92	1.7791	7 1 16.4	13.174	8	14 57 19.65	1.9410	16 52 1.2	11.124
9	13 30 22.72	1.7810	7 14 26.1	13.149	9	14 59 16.25	1.9457	17 3 6.7	11.060
10	13 32 9.64	1.7830	7 27 34.3	13.124	10	15 1 13.14	1.9505	17 14 8.4	10.996
11	13 33 56.68	1.7850	7 40 41.0	13.099	11	15 3 10.31	1.9553	17 25 6.2	10.939
12	13 35 43.84	1.7871	7 53 46.2	13.073	12	15 5 7.77	1.9602	17 35 59.9	10.882
13	13 37 31.13	1.7893	8 6 49.8	13.046	13	15 7 5.53	1.9651	17 46 49.6	10.794
14	13 39 18.55	1.7915	8 19 51.7	13.017	14	15 9 3.58	1.9699	17 57 35.2	10.726
15	13 41 6.11	1.7938	8 32 51.8	12.987	15	15 11 1.92	1.9748	18 8 16.7	10.656
16	13 42 53.80	1.7961	8 45 50.2	12.958	16	15 13 0.56	1.9799	18 18 53.9	10.584
17	13 44 41.64	1.7986	8 58 46.8	12.929	17	15 14 59.51	1.9850	18 29 26.8	10.512
18	13 46 29.63	1.8011	9 11 41.7	12.899	18	15 16 58.76	1.9901	18 39 55.4	10.440
19	13 48 17.77	1.8037	9 24 34.7	12.867	19	15 18 58.32	1.9953	18 50 19.6	10.366
20	13 50 6.07	1.8063	9 37 25.7	12.834	20	15 20 58.19	2.0003	19 0 39.3	10.291
21	13 51 54.52	1.8089	9 50 14.8	12.801	21	15 22 58.36	2.0055	19 10 54.5	10.215
22	13 53 43.14	1.8117	10 3 1.9	12.768	22	15 24 58.85	2.0108	19 21 5.1	10.138
23	13 55 31.93	1.8145	S. 10 15 46.9	12.733	23	15 26 59.66	2.0161	S. 19 31 11.1	10.060
MONDAY 6.					WEDNESDAY 8.				
0	13 57 20.88	1.8173	S. 10 28 29.8	12.696	0	15 29 0.78	2.0214	S. 19 41 12.3	9.980
1	13 59 10.01	1.8203	10 41 10.6	12.662	1	15 31 2.22	2.0267	19 51 8.7	9.906
2	14 0 59.32	1.8233	10 53 49.2	12.624	2	15 33 3.98	2.0320	20 1 0.3	9.830
3	14 2 48.81	1.8264	11 6 25.5	12.586	3	15 35 6.06	2.0373	20 10 47.1	9.738
4	14 4 38.49	1.8296	11 18 59.5	12.547	4	15 37 8.46	2.0427	20 20 28.9	9.654
5	14 6 28.36	1.8328	11 31 31.2	12.508	5	15 39 11.18	2.0481	20 30 5.6	9.569
6	14 8 18.42	1.8360	11 44 0.5	12.468	6	15 41 14.23	2.0535	20 39 37.2	9.484
7	14 10 8.68	1.8393	11 56 27.4	12.427	7	15 43 17.60	2.0589	20 49 3.7	9.397
8	14 11 59.14	1.8427	12 8 51.8	12.386	8	15 45 21.30	2.0644	20 58 24.9	9.309
9	14 13 49.81	1.8462	12 21 13.7	12.343	9	15 47 25.33	2.0699	21 7 40.8	9.221
10	14 15 40.68	1.8497	12 33 33.0	12.300	10	15 49 29.69	2.0754	21 16 51.4	9.133
11	14 17 31.77	1.8532	12 45 49.7	12.256	11	15 51 34.38	2.0809	21 25 56.6	9.041
12	14 19 23.07	1.8568	12 58 3.7	12.211	12	15 53 39.40	2.0864	21 34 56.3	8.948
13	14 21 14.59	1.8606	13 10 15.0	12.165	13	15 55 44.75	2.0919	21 43 50.4	8.855
14	14 23 6.34	1.8643	13 22 23.5	12.118	14	15 57 50.43	2.0975	21 52 38.9	8.762
15	14 24 58.31	1.8681	13 34 29.2	12.071	15	15 59 56.45	2.1031	22 1 21.8	8.667
16	14 26 50.51	1.8720	13 46 39.0	12.022	16	16 2 2.80	2.1086	22 9 58.9	8.570
17	14 28 42.95	1.8759	13 58 31.9	11.972	17	16 4 9.48	2.1141	22 18 30.2	8.473
18	14 30 35.62	1.8798	14 10 28.7	11.922	18	16 6 16.49	2.1197	22 26 55.7	8.375
19	14 32 28.53	1.8839	14 22 22.5	11.872	19	16 8 23.84	2.1252	22 35 15.2	8.275
20	14 34 21.69	1.8880	14 34 13.3	11.820	20	16 10 31.52	2.1307	22 43 28.7	8.174
21	14 36 15.09	1.8921	14 46 0.9	11.767	21	16 12 39.53	2.1362	22 51 36.1	8.072
22	14 38 8.74	1.8962	14 57 45.3	11.712	22	16 14 47.87	2.1418	22 59 37.4	7.970
23	14 40 2.64	1.9005	15 9 26.4	11.657	23	16 16 56.55	2.1474	23 7 32.5	7.867
24	14 41 56.80	1.9048	S. 15 21 4.2	11.602	24	16 19 5.56	2.1529	S. 23 15 21.4	7.762

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	^h 16 ^m 19 ^s 5.56	2.1529	S. 23° 15' 21.4"	7.762	0	^h 18 ^m 8 ^s 8.13	2.3678	S. 27° 7' 40.0"	1.571
1	16 21 14.90	2.1584	23 23 4.0	7.656	1	18 10 30.28	2.3705	27 9 9.8	1.499
2	16 23 24.57	2.1639	23 30 40.1	7.548	2	18 12 52.59	2.3731	27 10 30.7	1.373
3	16 25 34.57	2.1694	23 38 9.7	7.439	3	18 15 15.05	2.3755	27 11 42.6	1.194
4	16 27 44.90	2.1748	23 45 32.8	7.331	4	18 17 37.65	2.3778	27 12 45.6	0.975
5	16 29 55.55	2.1802	23 52 49.4	7.221	5	18 20 0.39	2.3801	27 13 39.6	0.824
6	16 32 6.53	2.1857	23 59 59.3	7.109	6	18 22 23.27	2.3823	27 14 24.5	0.673
7	16 34 17.83	2.1911	24 7 2.5	6.997	7	18 24 46.27	2.3843	27 15 0.4	0.529
8	16 36 29.46	2.1965	24 13 58.9	6.883	8	18 27 9.39	2.3863	27 15 27.2	0.371
9	16 38 41.41	2.2018	24 20 48.4	6.768	9	18 29 32.63	2.3882	27 15 44.9	0.219
10	16 40 53.68	2.2071	24 27 31.0	6.653	10	18 31 55.97	2.3898	27 15 53.5	- 0.067
11	16 43 6.27	2.2124	24 34 6.7	6.537	11	18 34 19.41	2.3914	27 15 52.9	+ 0.086
12	16 45 19.17	2.2177	24 40 35.4	6.419	12	18 36 42.94	2.3929	27 15 43.1	0.239
13	16 47 32.39	2.2229	24 46 57.0	6.300	13	18 39 6.56	2.3943	27 15 24.2	0.399
14	16 49 45.92	2.2281	24 53 11.4	6.180	14	18 41 30.26	2.3956	27 14 56.1	0.546
15	16 51 59.76	2.2332	24 59 18.6	6.059	15	18 43 54.03	2.3967	27 14 18.7	0.700
16	16 54 13.90	2.2383	25 5 18.5	5.937	16	18 46 17.87	2.3978	27 13 32.1	0.853
17	16 56 28.35	2.2434	25 11 11.1	5.815	17	18 48 41.77	2.3988	27 12 36.3	1.007
18	16 58 43.11	2.2485	25 16 56.3	5.691	18	18 51 5.73	2.3997	27 11 31.3	1.161
19	17 0 58.17	2.2534	25 22 34.0	5.566	19	18 53 29.73	2.4004	27 10 17.0	1.315
20	17 3 13.52	2.2589	25 28 4.2	5.441	20	18 55 53.77	2.4010	27 8 53.5	1.469
21	17 5 29.16	2.2631	25 33 26.9	5.314	21	18 58 17.85	2.4015	27 7 20.7	1.624
22	17 7 45.09	2.2679	25 38 41.9	5.186	22	19 0 41.95	2.4018	27 5 38.6	1.779
23	17 10 1.31	2.2727	S. 25° 43' 49.2"	5.057	23	19 3 6.07	2.4021	S. 27° 3' 47.2"	1.933
FRIDAY 10.					SUNDAY 12.				
0	17 12 17.82	2.2775	S. 25° 48' 48.7"	4.927	0	19 5 30.21	2.4023	S. 27° 1' 46.6"	2.087
1	17 14 34.61	2.2821	25 53 40.4	4.797	1	19 7 54.35	2.4034	26 59 36.7	2.249
2	17 16 51.67	2.2867	25 58 24.3	4.666	2	19 10 18.50	2.4044	26 57 17.5	2.397
3	17 19 9.01	2.2912	26 3 0.3	4.533	3	19 12 42.64	2.4052	26 54 49.1	2.551
4	17 21 26.61	2.2956	26 7 28.3	4.400	4	19 15 6.77	2.4060	26 52 11.4	2.706
5	17 23 44.48	2.3000	26 11 48.3	4.267	5	19 17 30.88	2.4017	26 49 24.4	2.860
6	17 26 2.61	2.3043	26 16 0.3	4.132	6	19 19 54.97	2.4013	26 46 28.2	3.014
7	17 28 20.99	2.3085	26 20 4.1	3.995	7	19 22 19.03	2.4007	26 43 22.7	3.168
8	17 30 39.63	2.3127	26 23 59.7	3.858	8	19 24 43.05	2.3999	26 40 8.0	3.322
9	17 32 58.52	2.3168	26 27 47.1	3.721	9	19 27 7.02	2.3991	26 36 44.1	3.475
10	17 35 17.65	2.3208	26 31 26.2	3.582	10	19 29 30.94	2.3982	26 33 11.0	3.628
11	17 37 37.01	2.3247	26 34 57.0	3.443	11	19 31 54.81	2.3973	26 29 28.7	3.782
12	17 39 56.61	2.3286	26 38 19.4	3.303	12	19 34 18.62	2.3962	26 25 37.2	3.935
13	17 42 16.44	2.3323	26 41 33.4	3.163	13	19 36 42.36	2.3951	26 21 36.5	4.087
14	17 44 36.49	2.3360	26 44 38.9	3.022	14	19 39 6.03	2.3938	26 17 26.7	4.239
15	17 46 56.76	2.3396	26 47 36.0	2.880	15	19 41 29.62	2.3924	26 13 7.8	4.391
16	17 49 17.24	2.3431	26 50 24.5	2.737	16	19 43 53.12	2.3910	26 8 39.8	4.542
17	17 51 37.93	2.3466	26 53 4.4	2.593	17	19 46 16.54	2.3895	26 4 2.7	4.693
18	17 53 58.83	2.3499	26 55 35.7	2.449	18	19 48 39.86	2.3878	25 59 16.6	4.844
19	17 56 19.92	2.3531	26 57 58.3	2.304	19	19 51 3.08	2.3861	25 54 21.4	4.995
20	17 58 41.20	2.3562	27 0 12.2	2.159	20	19 53 26.19	2.3842	25 49 17.2	5.144
21	18 1 2.67	2.3593	27 2 17.4	2.013	21	19 55 49.19	2.3823	25 44 4.1	5.293
22	18 3 24.32	2.3622	27 4 13.8	1.866	22	19 58 12.07	2.3803	25 38 42.0	5.442
23	18 5 46.14	2.3651	27 6 1.3	1.719	23	20 0 34.83	2.3783	25 33 11.0	5.590
24	18 8 8.13	2.3678	S. 27° 7' 40.0"	1.571	24	20 2 57.47	2.3762	S. 25° 27' 31.2"	5.737

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	^h 20 ^m 2 ^s 57.47	2.3762	S. 25° 27' 31.2"	5.737	0	^h 21 ^m 53 ^s 28.88	2.2179	S. 18° 16' 9.8"	11.882
1	20 5 19.98	2.3740	25 21 42.5	5.885	1	21 55 41.85	2.2143	18 4 13.8	11.985
2	20 7 42.35	2.3716	25 15 45.0	6.032	2	21 57 54.60	2.2107	17 52 11.6	12.087
3	20 10 4.57	2.3692	25 9 38.6	6.179	3	22 0 7.14	2.2072	17 40 3.3	12.188
4	20 12 26.65	2.3667	25 3 23.5	6.324	4	22 2 19.47	2.2037	17 27 49.0	12.287
5	20 14 48.58	2.3642	24 56 59.7	6.468	5	22 4 31.59	2.2002	17 15 28.8	12.386
6	20 17 10.36	2.3617	24 50 27.3	6.612	6	22 6 43.50	2.1968	17 3 2.7	12.484
7	20 19 31.98	2.3590	24 43 46.2	6.756	7	22 8 55.21	2.1935	16 50 30.7	12.581
8	20 21 53.44	2.3562	24 36 56.5	6.899	8	22 11 6.72	2.1901	16 37 53.0	12.676
9	20 24 14.73	2.3534	24 29 58.3	7.041	9	22 13 18.02	2.1867	16 25 9.6	12.770
10	20 26 35.85	2.3506	24 22 51.6	7.182	10	22 15 29.12	2.1834	16 12 20.6	12.862
11	20 28 56.80	2.3477	24 15 36.5	7.323	11	22 17 40.03	2.1802	15 59 26.1	12.954
12	20 31 17.57	2.3447	24 8 12.9	7.462	12	22 19 50.74	2.1769	15 46 26.1	13.045
13	20 33 38.16	2.3417	24 0 41.0	7.601	13	22 22 1.26	2.1737	15 33 20.7	13.134
14	20 35 58.57	2.3386	23 53 0.8	7.739	14	22 24 11.59	2.1706	15 20 10.0	13.222
15	20 38 18.79	2.3354	23 45 12.3	7.877	15	22 26 21.73	2.1675	15 6 54.0	13.310
16	20 40 38.82	2.3322	23 37 15.6	8.013	16	22 28 31.69	2.1644	14 53 32.8	13.396
17	20 42 58.06	2.3291	23 29 10.7	8.149	17	22 30 41.46	2.1613	14 40 6.5	13.480
18	20 45 18.31	2.3258	23 20 57.7	8.283	18	22 32 51.05	2.1584	14 26 35.2	13.563
19	20 47 37.76	2.3225	23 12 36.7	8.417	19	22 35 0.47	2.1555	14 12 58.9	13.646
20	20 49 57.01	2.3191	23 4 7.6	8.551	20	22 37 9.71	2.1526	13 59 17.7	13.728
21	20 52 16.05	2.3157	22 55 30.5	8.684	21	22 39 18.78	2.1498	13 45 31.6	13.806
22	20 54 34.89	2.3122	22 46 45.5	8.816	22	22 41 27.69	2.1471	13 31 40.8	13.886
23	20 56 53.52	2.3088	S. 22° 37' 52.6"	8.946	23	22 43 36.43	2.1444	S. 13° 17' 45.3"	13.969
TUESDAY 14.					THURSDAY 16.				
0	20 59 11.95	2.3054	S. 22° 28' 52.0"	9.075	0	22 45 45.01	2.1417	S. 13° 3' 45.3"	14.038
1	21 1 30.17	2.3019	22 19 43.6	9.204	1	22 47 53.43	2.1391	12 49 40.7	14.114
2	21 3 48.17	2.2983	22 10 27.5	9.332	2	22 50 1.70	2.1366	12 35 31.6	14.187
3	21 6 5.96	2.2947	22 1 3.8	9.458	3	22 52 9.82	2.1341	12 21 18.2	14.259
4	21 8 23.53	2.2911	21 51 32.5	9.584	4	22 54 17.79	2.1317	12 7 0.5	14.331
5	21 10 40.89	2.2875	21 41 53.7	9.709	5	22 56 25.62	2.1293	11 52 38.5	14.402
6	21 12 58.03	2.2838	21 32 7.4	9.833	6	22 58 33.30	2.1269	11 38 12.2	14.471
7	21 15 14.95	2.2802	21 22 13.7	9.956	7	23 0 40.85	2.1247	11 23 41.9	14.538
8	21 17 31.65	2.2766	21 12 12.7	10.077	8	23 2 48.27	2.1226	11 9 7.6	14.604
9	21 19 48.14	2.2729	21 2 4.4	10.198	9	23 4 55.56	2.1205	10 54 29.4	14.669
10	21 22 4.40	2.2692	20 51 48.9	10.318	10	23 7 2.73	2.1184	10 39 47.3	14.733
11	21 24 20.44	2.2655	20 41 26.2	10.437	11	23 9 9.77	2.1163	10 25 1.4	14.797
12	21 26 36.26	2.2618	20 30 56.4	10.555	12	23 11 16.69	2.1144	10 10 11.7	14.858
13	21 28 51.86	2.2581	20 20 19.6	10.671	13	23 13 23.50	2.1126	9 55 18.4	14.918
14	21 31 7.24	2.2544	20 9 35.9	10.787	14	23 15 30.21	2.1109	9 40 21.5	14.977
15	21 33 22.39	2.2507	19 58 45.2	10.902	15	23 17 36.81	2.1092	9 25 21.2	15.034
16	21 35 37.32	2.2471	19 47 47.7	11.015	16	23 19 43.31	2.1076	9 10 17.5	15.090
17	21 37 52.04	2.2434	19 36 43.4	11.127	17	23 21 49.72	2.1060	8 55 10.4	15.146
18	21 40 6.53	2.2397	19 25 32.5	11.238	18	23 23 56.03	2.1045	8 40 0.0	15.200
19	21 42 20.80	2.2361	19 14 14.9	11.348	19	23 26 2.26	2.1031	8 24 46.4	15.252
20	21 44 34.86	2.2324	19 2 50.7	11.457	20	23 28 8.40	2.1017	8 9 29.7	15.303
21	21 46 48.69	2.2287	18 51 20.1	11.564	21	23 30 14.46	2.1004	7 54 10.0	15.353
22	21 49 2.30	2.2251	18 39 43.1	11.671	22	23 32 20.45	2.0993	7 38 47.4	15.402
23	21 51 15.70	2.2215	18 27 59.6	11.777	23	23 34 26.38	2.0982	7 23 21.8	15.450
24	21 53 28.88	2.2179	S. 18° 16' 9.8"	11.882	24	23 36 32.24	2.0972	S. 7° 7' 53.4"	15.496

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	^h 23 ^m 36 ^s 32.24	2.0979	S. 7° 7' 53.4"	15.496	0	^h 1° 17' 34.79	2.1460	N. 5° 43' 49.0"	16.119
1	23 38 38.04	2.0982	6 52 22.3	15.541	1	1 19 43.64	2.1491	5 59 55.5	16.096
2	23 40 43.79	2.0983	6 36 48.5	15.585	2	1 21 52.68	2.1523	6 16 0.5	16.071
3	23 42 49.48	2.0945	6 21 12.1	15.697	3	1 24 1.92	2.1556	6 32 4.0	16.045
4	23 44 55.13	2.0938	6 5 33.2	15.668	4	1 26 11.36	2.1590	6 48 5.9	16.017
5	23 47 0.74	2.0939	5 49 51.9	15.707	5	1 28 21.00	2.1625	7 4 6.1	15.989
6	23 49 6.31	2.0926	5 34 8.3	15.746	6	1 30 30.86	2.1661	7 20 4.6	15.959
7	23 51 11.85	2.0921	5 18 22.4	15.784	7	1 32 40.93	2.1698	7 36 1.2	15.926
8	23 53 17.36	2.0917	5 2 34.2	15.820	8	1 34 51.23	2.1735	7 51 55.7	15.891
9	23 55 22.85	2.0913	4 46 44.0	15.854	9	1 37 1.75	2.1772	8 7 48.1	15.855
10	23 57 28.32	2.0913	4 30 51.8	15.887	10	1 39 12.50	2.1811	8 23 38.3	15.818
11	23 59 33.79	2.0911	4 14 57.6	15.919	11	1 41 23.48	2.1850	8 39 26.3	15.780
12	0 1 39.25	2.0909	3 59 1.5	15.950	12	1 43 34.70	2.1890	8 55 11.9	15.739
13	0 3 44.70	2.0909	3 43 3.6	15.979	13	1 45 46.16	2.1932	9 10 55.0	15.697
14	0 5 50.16	2.0911	3 27 4.0	16.007	14	1 47 57.88	2.1974	9 26 35.5	15.653
15	0 7 55.63	2.0913	3 11 2.8	16.033	15	1 50 9.85	2.2017	9 42 13.3	15.607
16	0 10 1.11	2.0915	2 55 0.0	16.059	16	1 52 22.08	2.2060	9 57 48.3	15.559
17	0 12 6.61	2.0919	2 38 55.7	16.082	17	1 54 34.57	2.2103	10 13 20.4	15.510
18	0 14 12.14	2.0924	2 22 50.1	16.104	18	1 56 47.32	2.2148	10 28 49.5	15.459
19	0 16 17.70	2.0929	2 6 43.2	16.126	19	1 59 0.35	2.2195	10 44 15.5	15.407
20	0 18 23.29	2.0934	1 50 35.0	16.147	20	2 2 13.66	2.2241	10 59 38.3	15.353
21	0 20 28.91	2.0941	1 34 25.6	16.165	21	2 3 27.24	2.2288	11 14 57.8	15.297
22	0 22 34.58	2.0949	1 18 15.2	16.182	22	2 5 41.11	2.2336	11 30 13.9	15.238
23	0 24 40.30	2.0958	S. 1° 2' 3.8"	16.198	23	2 7 55.27	2.2384	N. 11° 45' 26.4"	15.178
SATURDAY 18.					MONDAY 20.				
0	0 26 46.08	2.0968	S. 0° 45' 51.5"	16.212	0	2 10 9.72	2.2433	N. 12° 0' 35.3"	15.117
1	0 28 51.92	2.0978	0 29 38.4	16.224	1	2 12 24.47	2.2483	12 15 40.5	15.054
2	0 30 57.82	2.0989	S. 0° 13' 24.6"	16.236	2	2 14 39.52	2.2533	12 30 41.8	14.989
3	0 33 3.79	2.1001	N. 0° 2' 49.9"	16.247	3	2 16 54.87	2.2584	12 45 39.2	14.922
4	0 35 9.83	2.1014	0 19 5.0	16.255	4	2 19 10.53	2.2636	13 0 32.5	14.854
5	0 37 15.96	2.1029	0 35 20.5	16.262	5	2 21 26.50	2.2688	13 15 21.7	14.784
6	0 39 22.18	2.1044	0 51 36.4	16.268	6	2 23 42.79	2.2741	13 30 6.6	14.719
7	0 41 28.49	2.1059	1 7 52.6	16.272	7	2 25 59.40	2.2795	13 44 47.1	14.638
8	0 43 34.89	2.1075	1 24 9.0	16.275	8	2 28 16.33	2.2848	13 59 23.1	14.563
9	0 45 41.39	2.1093	1 40 25.6	16.277	9	2 30 33.58	2.2902	14 13 54.6	14.488
10	0 47 48.00	2.1112	1 56 42.2	16.276	10	2 32 51.16	2.2957	14 28 21.4	14.406
11	0 49 54.73	2.1131	2 12 58.7	16.274	11	2 35 9.07	2.3013	14 42 43.3	14.324
12	0 52 1.57	2.1150	2 29 15.1	16.272	12	2 37 27.32	2.3070	14 57 0.3	14.242
13	0 54 8.53	2.1172	2 45 31.3	16.268	13	2 39 45.91	2.3126	15 11 12.3	14.157
14	0 56 15.63	2.1194	3 1 47.2	16.262	14	2 42 4.83	2.3182	15 25 19.1	14.070
15	0 58 22.86	2.1217	3 18 2.7	16.254	15	2 44 24.09	2.3239	15 39 20.7	13.982
16	1 0 30.23	2.1240	3 34 17.7	16.245	16	2 46 43.70	2.3297	15 53 16.9	13.891
17	1 2 37.74	2.1264	3 50 32.1	16.234	17	2 49 3.66	2.3355	16 7 7.6	13.799
18	1 4 45.40	2.1290	4 6 45.8	16.222	18	2 51 23.96	2.3413	16 20 52.8	13.706
19	1 6 53.22	2.1316	4 22 58.8	16.209	19	2 53 44.61	2.3472	16 34 32.3	13.610
20	1 9 1.19	2.1343	4 39 10.9	16.194	20	2 56 5.62	2.3532	16 48 6.0	13.512
21	1 11 9.33	2.1371	4 55 22.1	16.177	21	2 58 26.99	2.3592	17 1 33.7	13.419
22	1 13 17.64	2.1399	5 11 32.2	16.159	22	3 0 48.72	2.3651	17 14 55.4	13.311
23	1 15 26.12	2.1429	5 27 41.2	16.140	23	3 3 10.80	2.3710	17 28 11.0	13.207
24	1 17 34.79	2.1460	N. 5° 43' 49.0"	16.119	24	3 5 33.24	2.3770	N. 17° 41' 20.3"	13.102

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	h m s	s	N. 17° 41' 20.3"	13.102	0	h m s	s	N. 25° 35' 54.0"	6.079
1	3 5 33.24	2.3770	17 54 23.3	12.996	1	5 8 51.71	2.6315	25 41 52.9	5.891
2	3 7 56.04	2.3891	18 7 19.8	12.887	2	5 11 29.69	2.6345	25 47 40.9	5.709
3	3 10 19.20	2.3952	18 20 9.7	12.776	3	5 14 7.85	2.6373	25 53 18.0	5.598
4	3 12 42.73	2.4019	18 32 52.9	12.663	4	5 16 46.17	2.6399	25 58 44.2	5.346
5	3 15 6.62	2.4079	18 45 29.3	12.549	5	5 19 24.64	2.6423	26 3 59.5	5.163
6	3 17 30.87	2.4133	18 57 58.8	12.433	6	5 22 3.25	2.6447	26 9 3.8	4.979
7	3 19 55.49	2.4193	19 10 21.3	12.315	7	5 24 42.00	2.6469	26 13 57.0	4.794
8	3 22 20.47	2.4254	19 22 36.6	12.195	8	5 27 20.88	2.6489	26 18 39.1	4.609
9	3 24 45.81	2.4315	19 34 44.7	12.074	9	5 29 59.87	2.6507	26 23 10.1	4.423
10	3 27 11.52	2.4376	19 46 45.5	11.951	10	5 32 38.97	2.6524	26 27 29.9	4.237
11	3 29 37.59	2.4437	19 58 38.8	11.825	11	5 35 18.16	2.6539	26 31 38.5	4.050
12	3 32 4.03	2.4497	20 10 24.5	11.697	12	5 37 57.44	2.6553	26 35 35.9	3.862
13	3 34 30.83	2.4557	20 22 2.5	11.569	13	5 40 36.80	2.6566	26 39 22.0	3.674
14	3 36 57.99	2.4617	20 33 32.8	11.439	14	5 43 16.23	2.6578	26 42 56.8	3.487
15	3 39 25.51	2.4677	20 44 55.2	11.307	15	5 45 55.71	2.6584	26 46 20.4	3.299
16	3 41 53.39	2.4736	20 56 9.6	11.173	16	5 48 35.24	2.6591	26 49 32.7	3.110
17	3 44 21.63	2.4794	21 7 15.9	11.037	17	5 51 14.80	2.6596	26 52 33.6	2.920
18	3 46 50.22	2.4853	21 18 14.0	10.899	18	5 53 54.39	2.6599	26 55 23.1	2.731
19	3 49 19.16	2.4912	21 29 3.8	10.760	19	5 56 33.99	2.6601	26 58 1.3	2.549
20	3 51 48.46	2.4970	21 39 45.2	10.619	20	5 59 13.60	2.6601	27 0 28.2	2.353
21	3 54 18.11	2.5027	21 50 18.1	10.477	21	6 1 53.20	2.6599	27 2 43.7	2.163
22	3 56 48.10	2.5085	22 0 42.4	10.332	22	6 4 32.79	2.6596	27 4 47.8	1.973
23	3 59 18.44	2.5142	N. 22° 10' 58.0"	10.186	23	6 7 12.35	2.6589	N. 27° 6' 40.5"	1.784
WEDNESDAY 22.					FRIDAY 24.				
0	h m s	s	N. 22° 21' 4.7"	10.038	0	h m s	s	N. 27° 8' 21.9"	1.595
1	4 4 20.14	2.5196	22 31 2.5	9.889	1	6 9 51.86	2.6581	27 9 51.9	1.406
2	4 6 51.50	2.5253	22 40 51.4	9.739	2	6 12 31.32	2.6579	27 11 10.6	1.217
3	4 9 23.18	2.5308	22 50 31.2	9.587	3	6 15 10.73	2.6569	27 12 17.9	1.028
4	4 11 55.19	2.5362	23 0 1.8	9.433	4	6 17 50.07	2.6550	27 13 13.9	0.839
5	4 14 27.52	2.5415	23 9 23.1	9.278	5	6 20 29.33	2.6536	27 13 58.6	0.651
6	4 17 0.17	2.5468	23 18 35.1	9.121	6	6 23 8.50	2.6519	27 14 32.0	0.463
7	4 19 33.14	2.5521	23 27 37.6	8.962	7	6 25 47.56	2.6501	27 14 54.1	0.275
8	4 22 6.42	2.5573	23 36 30.5	8.802	8	6 28 26.51	2.6482	27 15 5.0	+ 0.088
9	4 24 40.00	2.5629	23 45 13.8	8.641	9	6 31 5.34	2.6460	27 15 4.7	- 0.098
10	4 27 13.88	2.5671	23 53 47.4	8.478	10	6 33 44.03	2.6437	27 14 53.2	0.283
11	4 29 48.05	2.5720	24 2 11.2	8.314	11	6 36 22.58	2.6413	27 13 30.5	0.471
12	4 32 22.52	2.5768	24 10 25.1	8.149	12	6 39 0.98	2.6386	27 13 56.7	0.656
13	4 34 57.27	2.5814	24 18 29.1	7.982	13	6 41 39.21	2.6357	27 13 11.8	0.840
14	4 37 32.29	2.5860	24 26 23.0	7.814	14	6 44 17.27	2.6327	27 12 15.9	1.024
15	4 40 7.59	2.5905	24 34 6.8	7.645	15	6 46 55.14	2.6296	27 11 8.9	1.207
16	4 42 43.15	2.5946	24 41 40.4	7.474	16	6 49 32.82	2.6263	27 9 51.0	1.389
17	4 45 18.97	2.5991	24 49 3.7	7.302	17	6 52 10.29	2.6227	27 8 22.2	1.570
18	4 47 55.04	2.6032	24 56 16.7	7.130	18	6 54 47.55	2.6191	27 6 42.6	1.750
19	4 50 31.35	2.6072	25 3 19.3	6.956	19	6 57 24.58	2.6153	27 4 52.2	1.930
20	4 53 7.90	2.6111	25 10 11.4	6.781	20	7 0 1.38	2.6113	27 2 51.0	2.110
21	4 55 44.68	2.6147	25 16 53.0	6.605	21	7 2 37.94	2.6079	27 0 39.0	2.288
22	4 58 21.67	2.6183	25 23 24.0	6.428	22	7 5 14.24	2.6039	26 58 16.4	2.465
23	5 0 58.88	2.6219	25 29 44.3	6.250	23	7 7 50.28	2.5995	26 55 43.2	2.641
24	5 3 36.30	2.6259	N. 25° 35' 54.0"	6.072	24	7 10 26.06	2.5940	N. 26° 52' 59.5"	2.816
24	5 6 13.91	2.6294				7 13 1.56	2.5892		

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	h m s	s	N. 26 52 59.5	"	0	h m s	s	N. 21 41 37.0	"
1	7 13 1.56	2.5892	26 50 5.3	2.816	1	9 9 55.08	2.2577	21 31 59.4	9.677
2	7 15 36.77	2.5843	26 47 0.7	2.990	2	9 12 10.31	2.2500	21 22 15.7	9.779
3	7 18 11.68	2.5793	26 43 45.8	3.162	3	9 14 25.08	2.2422	21 12 25.9	9.879
4	7 20 46.29	2.5742	26 40 20.7	3.333	4	9 16 39.38	2.2345	21 2 30.2	9.977
5	7 23 20.59	2.5690	26 36 45.3	3.504	5	9 18 53.22	2.2268	20 52 28.7	10.073
6	7 25 54.57	2.5636	26 32 59.8	3.674	6	9 21 6.60	2.2192	20 42 21.5	10.167
7	7 28 28.22	2.5581	26 29 4.2	3.842	7	9 23 19.52	2.2115	20 32 8.7	10.260
8	7 31 1.54	2.5525	26 24 58.7	4.009	8	9 25 31.98	2.2039	20 21 50.3	10.352
9	7 33 34.52	2.5467	26 20 43.3	4.174	9	9 27 43.99	2.1964	20 11 26.5	10.442
10	7 36 7.14	2.5408	26 16 18.1	4.338	10	9 29 55.55	2.1888	20 0 57.3	10.530
11	7 38 39.41	2.5348	26 11 43.1	4.502	11	9 32 6.65	2.1813	19 50 22.9	10.617
12	7 41 11.32	2.5287	26 6 58.5	4.663	12	9 34 17.30	2.1738	19 39 43.3	10.703
13	7 43 42.86	2.5225	26 2 4.3	4.823	13	9 36 27.51	2.1664	19 28 58.6	10.787
14	7 46 14.02	2.5162	25 57 0.6	4.982	14	9 38 37.27	2.1590	19 18 8.9	10.869
15	7 48 44.80	2.5098	25 51 47.5	5.140	15	9 40 46.59	2.1517	19 7 14.3	10.950
16	7 51 15.20	2.5033	25 46 25.1	5.296	16	9 42 55.47	2.1443	18 56 14.9	11.029
17	7 53 45.20	2.4967	25 40 53.4	5.451	17	9 45 3.91	2.1370	18 45 10.8	11.108
18	7 56 14.81	2.4901	25 35 12.6	5.604	18	9 47 11.91	2.1297	18 34 2.0	11.185
19	7 58 44.01	2.4833	25 29 22.7	5.756	19	9 49 19.48	2.1226	18 22 48.6	11.260
20	8 1 12.80	2.4764	25 23 23.9	5.906	20	9 51 26.62	2.1155	18 11 30.8	11.333
21	8 3 41.18	2.4695	25 17 16.2	6.054	21	9 53 33.34	2.1084	18 0 8.6	11.406
22	8 6 9.14	2.4625	25 10 59.7	6.202	22	9 55 39.63	2.1013	17 48 42.1	11.477
23	8 8 36.68	2.4554	N. 25 4 34.5	6.348	23	9 57 45.50	2.0944	N. 17 37 11.3	11.547
24	8 11 3.79	2.4483		6.493		9 59 50.96	2.0875		
SUNDAY 26.					TUESDAY 28.				
0	8 13 30.47	2.4411	N. 24 58 0.6	6.636	0	10 1 56.00	2.0806	N. 17 25 36.4	11.616
1	8 15 56.72	2.4338	24 51 18.2	6.778	1	10 4 0.63	2.0738	17 13 57.4	11.689
2	8 18 22.53	2.4265	24 44 27.5	6.914	2	10 6 4.86	2.0671	17 2 14.5	11.748
3	8 20 47.90	2.4191	24 37 28.5	7.052	3	10 8 8.68	2.0603	16 50 27.7	11.813
4	8 23 12.82	2.4117	24 30 21.3	7.189	4	10 10 12.10	2.0537	16 38 37.0	11.876
5	8 25 37.30	2.4042	24 23 5.9	7.325	5	10 12 15.13	2.0472	16 26 42.6	11.938
6	8 28 1.33	2.3967	24 15 42.3	7.459	6	10 14 17.77	2.0407	16 14 44.5	11.996
7	8 30 24.91	2.3892	24 8 10.8	7.589	7	10 16 20.02	2.0342	16 2 42.8	12.057
8	8 32 48.03	2.3816	24 0 31.6	7.718	8	10 18 21.88	2.0276	15 50 37.6	12.115
9	8 35 10.70	2.3740	23 52 44.7	7.846	9	10 20 23.36	2.0216	15 38 29.0	12.171
10	8 37 32.91	2.3663	23 44 50.1	7.973	10	10 22 24.47	2.0154	15 26 17.1	12.227
11	8 39 54.66	2.3586	23 36 47.9	8.098	11	10 24 25.21	2.0092	15 14 1.8	12.282
12	8 42 15.94	2.3509	23 28 38.3	8.222	12	10 26 25.57	2.0030	15 1 43.3	12.334
13	8 44 36.76	2.3432	23 20 21.3	8.343	13	10 28 25.57	1.9970	14 49 21.7	12.386
14	8 46 57.12	2.3355	23 11 57.1	8.463	14	10 30 25.21	1.9911	14 36 57.0	12.437
15	8 49 17.02	2.3277	23 3 25.7	8.582	15	10 32 24.50	1.9852	14 24 29.3	12.486
16	8 51 36.45	2.3199	22 54 47.2	8.699	16	10 34 23.44	1.9794	14 11 58.7	12.534
17	8 53 55.41	2.3122	22 46 1.8	8.814	17	10 36 22.03	1.9736	13 59 25.2	12.582
18	8 56 13.91	2.3044	22 37 9.5	8.928	18	10 38 20.27	1.9678	13 46 48.9	12.628
19	8 58 31.94	2.2966	22 28 10.4	9.040	19	10 40 18.17	1.9622	13 34 9.9	12.673
20	9 0 49.50	2.2888	22 19 4.7	9.150	20	10 42 15.74	1.9568	13 21 28.2	12.716
21	9 3 6.60	2.2811	22 9 52.4	9.259	21	10 44 12.99	1.9514	13 8 44.0	12.759
22	9 5 23.23	2.2732	22 0 33.6	9.367	22	10 46 9.91	1.9460	12 55 57.2	12.801
23	9 7 39.39	2.2654	21 51 8.4	9.472	23	10 48 6.51	1.9407	12 43 7.9	12.841
24	9 9 55.08	2.2577	N. 21 41 37.0	9.575	24	10 50 2.79	1.9354	N. 12 30 16.3	12.889

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 29.					FRIDAY, JULY 1.				
0	^h 10 ^m 50 ^s 2.79	1.9354	N. 12° 30' 16.3"	12.880	0	^h 12 ^m 18 ^s 25.02	1.7779	N. 1° 44' 23.3"	13.715
1	10 51 58.76	1.9362	12 17 22.3	12.919					
2	10 53 54.42	1.9369	12 4 26.0	12.956					
3	10 55 49.78	1.9379	11 51 27.6	12.992					
4	10 57 44.84	1.9153	11 38 27.0	13.027					
5	10 59 39.61	1.9105	11 25 24.3	13.062					
6	11 1 34.10	1.9057	11 12 19.6	13.095					
7	11 3 28.30	1.9010	10 59 12.9	13.127					
8	11 5 22.22	1.8964	10 46 4.3	13.158					
9	11 7 15.87	1.8919	10 32 53.9	13.188					
10	11 9 9.25	1.8874	10 19 41.7	13.218					
11	11 11 2.36	1.8830	10 6 27.7	13.246					
12	11 12 55.21	1.8786	9 53 12.1	13.273					
13	11 14 47.81	1.8746	9 39 54.9	13.300					
14	11 16 40.16	1.8704	9 26 36.1	13.327					
15	11 18 32.26	1.8663	9 13 15.7	13.352					
16	11 20 24.12	1.8623	8 59 53.9	13.375					
17	11 22 15.74	1.8584	8 46 30.7	13.397					
18	11 24 7.13	1.8546	8 33 6.2	13.419					
19	11 25 58.30	1.8509	8 19 40.4	13.441					
20	11 27 49.24	1.8472	8 6 13.3	13.462					
21	11 29 39.96	1.8436	7 52 45.0	13.482					
22	11 31 30.47	1.8401	7 39 15.5	13.500					
23	11 33 20.78	1.8367	N. 7° 25' 45.0"	13.518					
THURSDAY 30.					PHASES OF THE MOON.				
0	11 35 10.88	1.8333	N. 7° 12' 13.4"	13.535	☾ First Quarter . June	d 1	h 21	m 51.1	
1	11 37 0.78	1.8301	6 58 40.8	13.551	☾ Full Moon	10	1	32.3	
2	11 38 50.49	1.8270	6 45 7.3	13.566	☾ Last Quarter	17	9	0.7	
3	11 40 40.02	1.8239	6 31 32.9	13.581	● New Moon	24	2	6.6	
4	11 42 29.36	1.8208	6 17 57.6	13.595					
5	11 44 18.52	1.8178	6 4 21.5	13.607					
6	11 46 7.50	1.8150	5 50 44.7	13.619					
7	11 47 56.32	1.8123	5 37 7.2	13.631					
8	11 49 44.98	1.8096	5 23 29.0	13.642					
9	11 51 33.47	1.8069	5 9 50.1	13.652					
10	11 53 21.81	1.8044	4 56 10.7	13.661					
11	11 55 10.00	1.8020	4 42 30.8	13.669					
12	11 56 58.05	1.7997	4 28 50.4	13.677					
13	11 58 45.96	1.7973	4 15 9.5	13.684					
14	12 0 33.73	1.7951	4 1 28.3	13.690					
15	12 2 21.37	1.7929	3 47 46.7	13.696					
16	12 4 8.88	1.7908	3 34 4.8	13.701					
17	12 5 56.27	1.7889	3 20 22.6	13.705					
18	12 7 43.55	1.7870	3 6 40.2	13.709					
19	12 9 30.71	1.7852	2 52 57.6	13.712					
20	12 11 17.77	1.7834	2 39 14.8	13.713					
21	12 13 4.72	1.7817	2 25 32.0	13.714					
22	12 14 51.57	1.7802	2 11 49.1	13.715					
23	12 16 38.34	1.7787	1 58 6.2	13.715					
24	12 18 25.02	1.7779	N. 1° 44' 23.3"	13.715					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
1	SUN W.	79 40 55	3216	81 6 45	3231	82 32 18	3245	83 57 34	3258
	VENUS W.	39 40 59	3058	41 10 0	3071	42 38 45	3082	44 7 16	3085
	Pollux W.	39 7 46	2871	40 40 42	2884	42 13 21	2897	43 45 44	2909
	Spica E.	51 44 40	2884	50 12 1	2899	48 39 41	2912	47 7 38	2927
	Antares E.	97 34 52	2869	96 1 54	2883	94 29 13	2896	92 56 49	2909
2	SUN W.	91 0 10	3319	92 24 0	3330	93 47 37	3339	95 11 3	3350
	VENUS W.	51 26 27	3147	52 53 40	3155	54 20 43	3164	55 47 35	3172
	Pollux W.	51 23 59	2983	52 54 58	2973	54 25 44	2982	55 56 19	2991
	Spica E.	39 31 33	2989	38 1 7	3001	36 30 56	3014	35 1 0	3025
	Antares E.	85 18 35	2964	83 47 37	2974	82 16 52	2983	80 46 18	2993
3	SUN W.	102 5 33	3391	103 28 0	3399	104 50 18	3405	106 12 29	3411
	Pollux W.	63 26 38	3029	64 56 15	3035	66 25 44	3041	67 55 6	3046
	VENUS W.	62 59 43	3205	64 25 46	3211	65 51 42	3215	67 17 33	3220
	Regulus W.	27 19 20	3093	28 47 38	3092	30 15 57	3093	31 44 15	3093
	Antares E.	73 16 8	3031	71 46 34	3037	70 17 7	3043	68 47 48	3048
4	SUN W.	113 1 55	3433	114 23 34	3436	115 45 10	3438	117 6 43	3441
	Pollux W.	75 20 31	3065	76 49 23	3069	78 18 11	3071	79 46 56	3073
	VENUS W.	74 25 40	3235	75 51 8	3236	77 16 34	3237	78 41 59	3238
	Regulus W.	39 5 29	3099	40 33 40	3100	42 1 50	3100	43 30 0	3100
	Antares E.	61 22 41	3069	59 53 54	3073	58 25 10	3075	56 56 30	3077
5	Pollux W.	87 10 19	3075	88 38 59	3075	90 7 39	3073	91 36 21	3073
	VENUS W.	85 49 2	3235	87 14 30	3233	88 40 0	3231	90 5 33	3229
	Regulus W.	50 50 53	3097	52 19 6	3095	53 47 22	3093	55 15 40	3091
	SATURN W.	25 42 41	3091	27 11 1	3090	28 39 23	3088	30 7 47	3087
	Antares E.	49 33 35	3081	48 5 2	3081	46 36 29	3080	45 7 55	3079
	α Aquilæ E.	98 27 2	3093	97 14 6	3017	96 1 3	3012	94 47 55	3006
6	Regulus W.	62 37 57	3076	64 6 36	3072	65 35 20	3069	67 4 8	3064
	SATURN W.	37 30 32	3072	38 59 16	3068	40 28 5	3064	41 56 59	3060
	Antares E.	37 44 43	3070	36 15 57	3069	34 47 9	3065	33 18 17	3063
	α Aquilæ E.	88 41 7	3080	87 27 37	3082	86 14 5	3087	85 0 32	3087
	MARS E.	101 33 52	3176	100 7 14	3171	98 40 30	3167	97 13 41	3163
7	Regulus W.	74 29 38	3038	75 59 4	3032	77 28 37	3026	78 58 17	3020
	SATURN W.	49 22 53	3034	50 52 23	3029	52 22 0	3023	53 51 44	3017
	Spica W.	20 37 20	3114	22 5 13	3096	23 33 27	3081	25 2 0	3067
	α Aquilæ E.	78 52 59	3097	77 39 36	3091	76 26 17	3097	75 13 4	3013
	MARS E.	89 58 9	3135	88 30 42	3129	87 3 8	3123	85 35 26	3117
8	SATURN W.	61 22 24	2984	62 52 57	2978	64 23 40	2969	65 54 32	2962
	Spica W.	32 28 33	3011	33 58 32	3001	35 28 44	2991	36 59 8	2981
	α Aquilæ E.	69 8 58	3063	67 56 42	3077	66 44 40	3095	65 32 55	4012
	MARS E.	78 14 52	3080	76 46 18	3072	75 17 34	3065	73 48 41	3056
	Fomalhaut E.	96 46 10	3148	95 18 58	3139	93 51 36	3132	92 24 5	3124
9	SATURN W.	73 31 16	2922	75 3 7	2914	76 35 8	2906	78 7 19	2898
	Spica W.	44 34 10	2934	46 5 46	2924	47 37 34	2915	49 9 34	2905
	α Aquilæ E.	59 39 14	4136	58 29 47	4169	57 20 52	4205	56 12 31	4247

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN W.	85° 22' 35"	3971	86° 47' 20"	3283	88° 11' 51"	3996	89° 36' 7"	3307
	VENUS W.	45 35 32	3105	47 3 35	3116	48 31 25	3127	49 59 2	3137
	Pollux W.	45 17 52	9990	46 49 45	9939	48 21 23	9942	49 52 48	9954
	Spica E.	45 35 53	9939	44 4 24	9952	42 33 11	9965	41 2 14	9977
	Antares E.	91 24 41	9920	89 52 48	9939	88 21 10	9943	86 49 46	9954
2	SUN W.	96 34 17	3358	97 57 21	3368	99 20 14	3376	100 42 58	3384
	VENUS W.	57 14 18	3179	58 40 52	3187	60 7 17	3193	61 33 34	3200
	Pollux W.	57 26 43	3000	58 56 56	3008	60 26 59	3015	61 56 53	3022
	Spica E.	33 31 18	3036	32 1 50	3048	30 22 37	3060	29 3 38	3072
	Antares E.	79 15 56	3001	77 45 44	3009	76 15 43	3017	74 45 51	3024
3	SUN W.	107 34 33	3416	108 56 31	3421	110 18 24	3425	111 40 12	3430
	Pollux W.	69 24 22	3051	70 53 32	3056	72 22 36	3059	73 51 36	3063
	VENUS W.	68 43 18	3224	70 8 59	3227	71 34 36	3230	73 0 10	3233
	Regulus W.	33 12 33	3095	34 40 49	3096	36 9 4	3097	37 37 17	3098
	Antares E.	67 18 35	3054	65 49 29	3058	64 20 28	3062	62 51 32	3066
4	SUN W.	118 28 13	3443	119 49 41	3444	121 11 8	3445	122 32 34	3446
	Pollux W.	81 15 39	3074	82 44 20	3075	84 13 0	3075	85 41 40	3076
	VENUS W.	80 7 23	3238	81 32 47	3238	82 58 11	3237	84 23 36	3236
	Regulus W.	44 58 10	3100	46 26 20	3100	47 54 30	3099	49 22 41	3098
	Antares E.	55 27 52	3078	53 59 16	3080	52 30 42	3080	51 2 8	3081
5	Pollux W.	93 5 4	3071	94 33 49	3069	96 2 37	3066	97 31 28	3064
	VENUS W.	91 31 8	3225	92 56 47	3222	94 22 30	3218	95 48 18	3214
	Regulus W.	56 44 1	3068	58 12 25	3066	59 40 52	3062	61 9 23	3060
	SATURN W.	31 36 13	3064	33 4 42	3061	34 33 15	3078	36 1 52	3075
	Antares E.	43 39 20	3078	42 10 44	3077	40 42 6	3075	39 13 26	3073
	α Aquilæ E.	93 34 41	3902	92 21 23	3898	91 8 1	3894	89 54 35	3892
6	Regulus W.	68 33 2	3060	70 2 1	3054	71 31 7	3049	73 0 19	3043
	SATURN W.	43 25 58	3055	44 55 3	3051	46 24 13	3045	47 53 30	3040
	Antares E.	31 49 22	3060	30 20 23	3057	28 51 21	3054	27 22 15	3051
	α Aquilæ E.	83 46 59	3887	82 33 26	3889	81 19 55	3891	80 6 26	3893
	MARS E.	95 46 47	3158	94 19 47	3153	92 52 41	3147	91 25 28	3142
7	Regulus W.	80 28 5	3014	81 58 1	3007	83 28 5	3000	84 58 18	2993
	SATURN W.	55 21 36	3011	56 51 35	3004	58 21 43	2997	59 51 59	2990
	Spica W.	26 30 50	3055	27 59 55	3043	29 29 14	3032	30 58 47	3022
	α Aquilæ E.	73 59 57	3920	72 46 58	3928	71 34 7	3939	70 21 27	3950
	MARS E.	84 7 37	3110	82 39 39	3102	81 11 32	3096	79 43 17	3087
8	SATURN W.	67 25 33	2954	68 56 44	2946	70 28 5	2938	71 59 36	2931
	Spica W.	38 29 44	2972	40 0 32	2962	41 31 33	2952	43 2 46	2943
	α Aquilæ E.	64 21 27	4032	63 10 19	4054	61 59 33	4078	60 49 10	4106
	MARS E.	72 19 38	3048	70 50 25	3039	69 21 1	3031	67 51 27	3023
	Fomalhaut E.	90 56 24	3116	89 28 34	3108	88 0 34	3101	86 32 26	3093
9	SATURN W.	79 39 41	2889	81 12 14	2881	82 44 57	2872	84 17 52	2864
	Spica W.	50 41 46	2897	52 14 9	2887	53 46 44	2878	55 19 31	2869
	α Aquilæ E.	55 4 49	4291	53 57 48	4341	52 51 33	4395	51 46 7	4455

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9	MARS E.	66° 21' 43"	3014	64° 51' 48"	3005	63° 21' 42"	2997	61° 51' 25"	2988
	Fomalhaut E.	85 4 8	3086	83 35 41	3079	82 7 6	3073	80 38 23	3065
	α Pegasi E.	104 47 6	3318	103 23 15	3304	101 59 8	3291	100 34 46	3279
0	SATURN W.	85 50 57	2855	87 24 13	2846	88 57 41	2838	90 31 20	2829
	Spica W.	56 52 30	2859	58 25 41	2851	59 59 3	2841	61 32 38	2832
	α Aquilæ E.	50 41 35	4590	49 38 1	4583	48 35 30	4573	47 34 8	4763
	MARS E.	54 17 12	2942	52 45 47	2933	51 14 10	2924	49 42 22	2915
	Fomalhaut E.	73 12 47	3035	71 43 18	3030	70 13 43	3026	68 44 2	3021
	α Pegasi E.	93 29 31	3225	92 3 51	3214	90 37 59	3206	89 11 57	3197
11	Spica W.	69 23 28	2786	70 58 14	2778	72 33 11	2768	74 8 21	2760
	Antares W.	23 30 18	2800	25 4 46	2789	26 39 28	2778	28 14 25	2768
	MARS E.	42 0 24	2669	40 27 25	2659	38 54 14	2650	37 20 51	2641
	Fomalhaut E.	61 14 26	3006	59 44 21	3005	58 14 15	3005	56 44 9	3005
	α Pegasi E.	81 59 26	3163	80 32 33	3158	79 5 33	3153	77 38 27	3149
	JUPITER E.	107 4 13	2832	105 30 27	2824	103 56 30	2815	102 22 21	2806
12	Spica W.	82 7 6	2714	83 43 27	2706	85 19 59	2697	86 56 43	2688
	Antares W.	36 12 42	2715	37 49 2	2706	39 25 34	2696	41 2 19	2687
	MARS E.	29 31 0	2796	27 56 27	2787	26 21 42	2779	24 46 46	2769
	Fomalhaut E.	49 14 10	3025	47 44 28	3023	46 14 56	3043	44 45 36	3056
	α Pegasi E.	70 22 5	3140	68 54 44	3141	67 27 24	3143	66 0 6	3146
	JUPITER E.	94 28 41	2760	92 53 21	2752	91 17 50	2743	89 42 7	2734
13	Spica W.	95 3 19	2645	96 41 13	2636	98 19 19	2627	99 57 37	2619
	Antares W.	49 9 10	2641	50 47 9	2632	52 25 21	2623	54 3 45	2614
	α Pegasi E.	58 45 0	3180	57 18 27	3172	55 52 8	3205	54 26 5	3221
	JUPITER E.	81 40 34	2689	80 3 39	2681	78 26 33	2672	76 49 15	2663
	α Arietis E.	99 15 14	2713	97 38 51	2704	96 2 16	2695	94 25 29	2686
14	Antares W.	62 18 47	2569	63 58 24	2561	65 38 13	2552	67 18 14	2543
	JUPITER E.	68 39 45	2618	67 1 15	2610	65 22 33	2601	63 43 39	2592
	α Arietis E.	86 18 36	2643	84 40 39	2634	83 2 30	2626	81 24 10	2618
	SUN E.	132 46 58	2696	131 14 36	2687	129 42 1	2678	128 9 14	2669
15	Antares W.	75 41 25	2499	77 22 40	2490	79 4 7	2482	80 45 46	2472
	JUPITER E.	55 26 7	2548	53 46 0	2538	52 5 40	2530	50 25 8	2521
	α Arietis E.	73 9 53	2580	71 30 31	2574	69 51 0	2566	68 11 19	2560
	SUN E.	120 22 13	2620	118 48 11	2611	117 13 57	2601	115 39 31	2592
16	Antares W.	89 17 9	2429	91 0 3	2420	92 43 9	2412	94 26 27	2403
	α Aquilæ W.	49 42 9	4092	50 52 18	4083	52 3 56	3919	53 16 56	3843
	MARS W.	22 45 6	2502	24 26 17	2491	26 7 43	2481	27 49 23	2471
	JUPITER E.	41 59 24	2477	40 17 38	2468	38 35 40	2460	36 53 30	2450
	α Arietis E.	59 50 45	2531	58 10 15	2527	56 29 39	2522	54 48 57	2518
	SUN E.	107 44 12	2744	106 8 31	2735	104 32 38	2725	102 56 32	2716
17	α Aquilæ W.	59 39 53	3539	60 59 34	3490	62 20 9	3446	63 41 34	3404
	MARS W.	36 21 8	2424	38 4 9	2415	39 47 23	2405	41 30 51	2396
	α Arietis E.	46 24 28	2511	44 43 30	2513	43 2 35	2515	41 21 43	2508
	SUN E.	94 52 58	2670	93 15 38	2661	91 38 6	2652	90 0 22	2643

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9	MARS E.	60 20 57	2979	58 50 18	2969	57 19 27	2961	55 48 25	2952
	Fomalhaut E.	79 9 31	3059	77 40 31	3053	76 11 24	3047	74 42 9	3041
	α Pegasi E.	90 10 10	3267	97 45 20	3255	96 20 16	3245	94 55 0	3234
10	SATURN W.	92 5 10	2821	93 30 11	2811	95 13 24	2803	96 47 48	2795
	Spica W.	63 6 24	2823	64 40 22	2814	66 14 32	2805	67 48 54	2795
	α Aquilæ E.	46 34 1	4861	45 35 15	4870	44 37 56	5099	43 42 12	5098
	MARS E.	48 10 22	2905	46 38 10	2897	45 5 47	2887	43 33 11	2878
	Fomalhaut E.	67 14 15	3018	65 44 24	3014	64 14 28	3011	62 44 29	3008
	α Pegasi E.	87 45 44	3189	86 19 22	3182	84 52 51	3175	83 26 12	3169
11	Spica W.	75 43 42	2750	77 19 15	2741	78 55 0	2732	80 30 57	2723
	Antares W.	29 49 38	2756	31 25 4	2746	33 0 43	2735	34 36 36	2725
	MARS E.	35 47 16	2831	34 13 29	2823	32 39 31	2814	31 5 21	2805
	Fomalhaut E.	55 14 3	3006	53 43 58	3009	52 13 57	3013	50 44 0	3018
	α Pegasi E.	76 11 17	3145	74 44 2	3143	73 16 45	3142	71 49 26	3140
	JUPITER E.	100 48 1	2797	99 13 29	2788	97 38 45	2779	96 3 49	2769
12	Spica W.	88 33 39	2679	90 10 47	2671	91 48 6	2662	93 25 37	2654
	Antares W.	42 39 16	2678	44 16 26	2669	45 53 48	2659	47 31 23	2650
	MARS E.	23 11 38	2761	21 36 19	2753	20 0 50	2746	18 25 11	2740
	Fomalhaut E.	43 16 32	3070	41 47 46	3087	40 19 21	3109	38 51 22	3133
	α Pegasi E.	64 32 52	3150	63 5 43	3155	61 38 40	3182	60 11 45	3170
	JUPITER E.	88 6 12	2725	86 30 5	2716	84 53 47	2707	83 17 16	2698
13	Spica W.	101 36 6	2610	103 14 47	2601	104 53 40	2593	106 32 44	2585
	Antares W.	55 42 21	2605	57 21 9	2596	59 0 10	2588	60 30 22	2578
	α Pegasi E.	53 0 21	3240	51 34 59	3261	50 10 2	3286	48 45 34	3315
	JUPITER E.	75 11 45	2654	73 34 3	2645	71 56 9	2636	70 18 3	2627
	α Arietis E.	92 48 30	2677	91 11 19	2668	89 33 56	2660	87 56 22	2651
14	Antares W.	68 58 28	2534	70 38 54	2525	72 19 32	2517	74 0 22	2507
	JUPITER E.	62 4 33	2583	60 25 15	2574	58 45 44	2566	57 6 2	2556
	α Arietis E.	79 45 40	2610	78 6 59	2609	76 28 7	2595	74 49 5	2588
	SUN E.	126 36 15	2859	125 3 3	2849	123 29 39	2839	121 56 2	2830
15	Antares W.	82 27 38	2463	84 9 42	2455	85 51 59	2446	87 34 28	2438
	JUPITER E.	48 44 24	2512	47 3 28	2503	45 22 19	2494	43 40 58	2485
	α Arietis E.	66 31 29	2553	64 51 30	2548	63 11 23	2542	61 31 8	2536
	SUN E.	114 4 52	2782	112 30 1	2772	110 54 57	2763	109 19 41	2753
16	Antares W.	96 9 58	2394	97 53 41	2386	99 37 36	2377	101 21 44	2368
	α Aquilæ W.	54 31 14	3772	55 46 45	3707	57 3 25	3647	58 21 9	3591
	MARS W.	29 31 17	2461	31 13 25	2452	32 55 46	2443	34 38 20	2433
	JUPITER E.	35 11 7	2442	33 28 32	2433	31 45 45	2425	30 2 46	2416
	α Arietis E.	53 8 9	2516	51 27 18	2513	49 46 23	2512	48 5 26	2511
	SUN E.	101 20 14	2707	99 43 44	2698	98 7 1	2689	96 30 6	2679
17	α Aquilæ W.	65 3 46	3365	66 26 42	3329	67 50 20	3296	69 14 36	3265
	MARS W.	43 14 31	2387	44 58 24	2378	46 42 30	2369	48 26 49	2361
	α Arietis E.	39 40 57	2525	38 0 19	2535	36 19 54	2546	34 39 45	2561
	SUN E.	88 22 26	2635	86 44 18	2626	85 5 59	2618	83 27 28	2609

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18	α Aquilæ W.	70 39 20	3236	72 4 55	3209	73 30 53	3185	74 57 20	3169
	MARS W.	50 11 20	2352	51 56 4	2344	53 40 50	2336	55 26 6	2328
	Fomalhaut W.	37 5 22	2788	38 40 5	2743	40 15 48	2703	41 52 24	2667
	SUN E.	81 48 45	2601	80 9 51	2623	78 30 46	2585	76 51 30	2577
19	α Aquilæ W.	82 15 41	3076	83 44 20	3065	85 13 13	3053	86 42 20	3045
	MARS W.	64 14 33	2290	66 0 47	2284	67 47 10	2277	69 33 43	2270
	Fomalhaut W.	50 6 10	2530	51 46 41	2510	53 27 40	2492	55 9 5	2474
	SUN E.	68 32 35	2541	66 52 19	2535	65 11 54	2529	63 31 21	2523
20	α Aquilæ W.	94 9 55	3096	95 39 36	3096	97 9 16	3030	98 38 52	3035
	MARS W.	78 28 41	2243	80 16 4	2239	82 3 33	2235	83 51 9	2231
	Fomalhaut W.	63 41 43	2407	65 25 8	2396	67 8 48	2387	68 52 41	2379
	α Pegasi W.	46 24 7	2957	47 55 14	2910	49 27 20	2868	51 0 20	2831
	SUN E.	55 6 44	2499	53 25 30	2495	51 44 10	2492	50 2 46	2490
21	MARS W.	92 50 17	2218	94 38 17	2217	96 26 19	2216	98 14 22	2216
	Fomalhaut W.	77 34 37	2352	79 19 21	2348	81 4 10	2346	82 49 2	2345
	α Pegasi W.	58 56 1	2693	60 32 50	2673	62 10 6	2656	63 47 45	2641
	JUPITER W.	28 20 33	2217	30 8 35	2215	31 56 40	2214	33 44 46	2214
	SUN E.	41 35 7	2485	39 53 32	2466	38 11 59	2467	36 30 28	2469
22	Fomalhaut W.	91 33 26	2350	93 18 12	2355	95 2 52	2359	96 47 25	2364
	α Pegasi W.	72 0 14	2593	73 39 18	2588	75 18 29	2585	76 57 45	2583
	JUPITER W.	42 45 4	2221	44 33 0	2224	46 20 52	2227	48 8 39	2231
	SUN E.	28 4 4	2515	26 23 12	2524	24 42 32	2535	23 2 8	2546
25	SUN W.	12 45 0	2692	14 18 7	2647	15 51 34	2637	17 25 14	2632
	Regulus E.	42 11 33	2410	40 28 12	2425	38 45 13	2442	37 2 38	2459
	SATURN E.	67 44 54	2396	66 1 14	2410	64 17 54	2424	62 34 53	2438
	Spica E.	96 12 5	2369	94 28 15	2403	92 44 44	2417	91 1 33	2430
26	SUN W.	25 13 22	2692	26 46 30	2673	28 19 24	2665	29 52 2	2696
	SATURN E.	54 5 2	2513	52 24 7	2529	50 43 34	2545	49 3 23	2561
	Spica E.	82 30 42	2504	80 49 35	2520	79 8 50	2536	77 26 27	2551
27	SUN W.	37 30 46	2971	39 1 35	2987	40 32 4	3003	42 2 13	3018
	SATURN E.	40 47 58	2641	39 9 59	2657	37 32 22	2674	35 55 7	2690
	Spica E.	69 11 56	2631	67 33 43	2647	65 55 52	2663	64 18 23	2679
28	SUN W.	49 28 8	3097	50 56 21	3113	52 24 15	3129	53 51 50	3143
	Spica E.	56 16 18	2759	54 40 56	2775	53 5 55	2790	51 31 14	2805
	Antares E.	102 7 46	2747	100 32 9	2769	98 56 51	2777	97 21 53	2792
29	SUN W.	61 5 17	3216	62 31 7	3220	63 56 41	3243	65 21 59	3257
	Spica E.	43 42 42	2880	42 9 57	2894	40 37 30	2908	39 5 21	2922
	Antares E.	89 31 40	2860	87 58 30	2873	86 25 37	2886	84 53 0	2898
30	SUN W.	72 24 45	3317	73 48 37	3327	75 12 17	3338	76 35 45	3348
	Regulus W.	23 23 30	3033	24 53 2	3034	26 22 33	3036	27 52 1	3039
	Spica E.	31 29 4	2992	29 58 41	3006	28 28 36	3020	26 58 48	3034
	Antares E.	77 13 42	2954	75 42 32	2965	74 11 35	2974	72 40 50	2984

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18	α Aquilæ W.	76° 24' 15"	3142	77° 51' 34"	3123	79° 19' 16"	3105	80° 47' 19"	3090
	MARS W.	57 11 25	2390	58 56 55	2312	60 42 37	2304	62 28 30	2298
	Fomalhaut W.	43 29 48	2635	45 7 56	2604	46 46 45	2578	48 26 10	2553
	SUN E.	75 12 3	2569	73 32 26	2562	71 52 39	2555	70 12 42	2548
19	α Aquilæ W.	88 11 37	3038	89 41 3	3032	91 10 36	3028	92 40 14	3026
	MARS W.	71 20 26	2965	73 7 17	2959	74 54 17	2953	76 41 25	2948
	Fomalhaut W.	56 50 55	2458	58 33 8	2443	60 15 41	2430	61 58 33	2417
	SUN E.	61 50 40	2517	60 9 51	2512	58 28 55	2508	56 47 53	2503
20	α Aquilæ W.	100 8 21	3042	101 37 42	3051	103 6 52	3061	104 35 49	3075
	MARS W.	85 38 50	2928	87 26 36	2925	89 14 26	2923	91 2 20	2920
	Fomalhaut W.	70 36 46	2372	72 21 1	2365	74 5 26	2360	75 49 58	2355
	α Pegasi W.	52 34 8	2797	54 8 40	2766	55 43 53	2739	57 19 41	2715
	SUN E.	48 21 19	2488	46 39 49	2486	44 58 16	2485	43 16 42	2485
21	MARS W.	100 2 25	2216	101 50 28	2216	103 38 31	2218	105 26 32	2220
	Fomalhaut W.	84 33 56	2345	86 18 50	2345	88 3 44	2346	89 48 36	2348
	α Pegasi W.	65 25 44	2698	67 4 1	2617	68 42 33	2607	70 21 18	2590
	JUPITER W.	35 32 52	2214	37 20 58	2216	39 9 2	2217	40 57 4	2218
	SUN E.	34 49 0	2492	33 7 36	2497	31 26 18	2502	29 45 7	2507
22	Fomalhaut W.	98 31 51	2371	100 16 8	2378	102 0 14	2386	103 44 9	2394
	α Pegasi W.	78 37 3	2583	80 16 22	2583	81 55 40	2585	83 34 56	2589
	JUPITER W.	49 56 20	2225	51 43 55	2241	53 31 22	2245	55 18 42	2251
	SUN E.	21 22 2	2565	19 42 19	2584	18 3 2	2607	16 24 17	2635
25	SUN W.	18 59 0	2832	20 32 46	2836	22 6 27	2842	23 40 0	2851
	Regulus E.	35 20 27	2477	33 38 41	2495	31 57 21	2515	30 16 28	2535
	SATURN E.	60 52 13	2453	59 9 53	2468	57 27 55	2483	55 46 18	2498
	Spica E.	89 18 41	2445	87 36 10	2460	85 54 0	2474	84 12 10	2489
26	SUN W.	31 24 23	2912	32 56 27	2927	34 28 12	2942	35 59 38	2956
	SATURN E.	47 23 34	2577	45 44 7	2593	44 5 2	2609	42 26 19	2625
	Spica E.	75 48 25	2567	74 8 45	2583	72 29 27	2599	70 50 31	2615
27	SUN W.	43 32 3	3034	45 1 33	3050	46 30 44	3065	47 59 36	3082
	SATURN E.	34 18 14	2707	32 41 43	2723	31 5 34	2739	29 29 46	2755
	Spica E.	62 41 15	2695	61 4 29	2711	59 28 4	2726	57 52 1	2743
28	SUN W.	55 19 7	3158	56 46 6	3173	58 12 47	3188	59 39 11	3203
	Spica E.	49 56 52	2820	48 22 50	2835	46 49 8	2850	45 15 45	2865
	Antares E.	95 47 14	2805	94 12 53	2820	92 38 51	2834	91 5 7	2847
29	SUN W.	66 47 1	3270	68 11 48	3282	69 36 21	3294	71 0 40	3306
	Spica E.	37 33 31	2936	36 1 58	2950	34 30 43	2964	32 59 45	2977
	Antares E.	83 20 39	2910	81 48 33	2922	80 16 42	2933	78 45 5	2944
30	SUN W.	77 59 1	3357	79 22 7	3366	80 45 2	3375	82 7 47	3383
	Regulus W.	29 21 26	3043	30 50 46	3046	32 20 2	3050	31 49 13	3054
	Spica E.	25 29 18	3050	24 0 7	3066	22 31 16	3084	21 2 47	3104
	Antares E.	71 10 17	2993	69 39 55	3001	68 9 43	3009	66 39 41	3017

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	[°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
Frid.	1	6 43 41.94	10.334	N.23 4 29.4	-10.78	15 46.12	68.75	3 41.34	0.477
Sat.	2	6 47 49.80	10.322	22 59 58.3	11.79	15 46.12	68.72	3 52.61	0.465
SUN.	3	6 51 57.35	10.308	22 55 3.2	12.79	15 46.13	68.68	4 3.58	0.451
Mon.	4	6 56 4.58	10.294	22 49 44.1	-13.78	15 46.14	68.64	4 14.22	0.437
Tues.	5	7 0 11.46	10.279	22 44 1.3	14.77	15 46.16	68.59	4 24.51	0.422
Wed.	6	7 4 17.98	10.263	22 37 54.8	15.75	15 46.18	68.54	4 34.44	0.406
Thur.	7	7 8 24.11	10.247	22 31 24.8	-16.73	15 46.20	68.49	4 43.99	0.390
Frid.	8	7 12 29.85	10.230	22 24 31.5	17.70	15 46.22	68.43	4 53.15	0.373
Sat.	9	7 16 35.18	10.213	22 17 15.1	18.66	15 46.25	68.37	5 1.90	0.356
SUN.	10	7 20 40.08	10.195	22 9 35.6	-19.61	15 46.28	68.31	5 10.23	0.338
Mon.	11	7 24 44.55	10.177	22 1 33.2	20.56	15 46.32	68.25	5 18.12	0.320
Tues.	12	7 28 48.57	10.158	21 53 8.2	21.50	15 46.36	68.19	5 25.56	0.301
Wed.	13	7 32 52.14	10.139	21 44 20.8	-22.43	15 46.40	68.12	5 32.55	0.282
Thur.	14	7 36 55.24	10.119	21 35 11.1	23.35	15 46.44	68.05	5 39.07	0.262
Frid.	15	7 40 57.86	10.099	21 25 39.3	24.27	15 46.49	67.98	5 45.11	0.242
Sat.	16	7 44 59.99	10.079	21 15 45.7	-25.18	15 46.54	67.91	5 50.66	0.222
SUN.	17	7 49 1.62	10.058	21 5 30.4	26.08	15 46.60	67.83	5 55.72	0.201
Mon.	18	7 53 2.73	10.035	20 54 53.6	26.97	15 46.66	67.76	6 0.27	0.179
Tues.	19	7 57 3.32	10.013	20 43 55.5	-27.85	15 46.73	67.68	6 4.28	0.157
Wed.	20	8 1 3.37	9.990	20 32 36.4	28.72	15 46.80	67.60	6 7.76	0.134
Thur.	21	8 5 2.87	9.967	20 20 56.6	29.58	15 46.88	67.52	6 10.70	0.111
Frid.	22	8 9 1.81	9.944	20 8 56.2	-30.43	15 46.96	67.44	6 13.08	0.088
Sat.	23	8 13 0.19	9.920	19 56 35.6	31.27	15 47.05	67.35	6 14.90	0.064
SUN.	24	8 16 57.98	9.896	19 43 54.9	32.10	15 47.15	67.27	6 16.13	0.040
Mon.	25	8 20 55.18	9.871	19 30 54.5	-32.92	15 47.25	67.18	6 16.77	0.015
Tues.	26	8 24 51.79	9.846	19 17 34.7	33.72	15 47.35	67.10	6 16.82	0.010
Wed.	27	8 28 47.79	9.821	19 3 55.7	34.50	15 47.46	67.01	6 16.26	0.035
Thur.	28	8 32 43.17	9.795	18 49 57.8	-35.29	15 47.58	66.93	6 15.09	0.061
Frid.	29	8 36 37.93	9.769	18 35 41.3	36.06	15 47.70	66.84	6 13.31	0.087
Sat.	30	8 40 32.07	9.743	18 21 6.5	36.82	15 47.82	66.76	6 10.90	0.113
SUN.	31	8 44 25.58	9.717	18 6 13.8	37.56	15 47.95	66.67	6 7.86	0.139
Mon.	32	8 48 18.47	9.691	N.17 51 3.5	-38.29	15 48.08	66.59	6 4 19	0.165

NOTE.—The mean time of semidiameter passing may be found by subtracting 0^m.19 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Frid.	1	6 ^h 43 ^m 41.30 ^s	10.333	N. 23° 4' 30".1	-10.78	3 ^m 41.31 ^s	0.477	6 ^h 39 ^m 59.99 ^s
Sat.	2	6 47 49.13	10.321	22 59 59.1	11.79	3 52.58	0.465	6 43 56.55
SUN.	3	6 51 56.65	10.307	22 55 4.1	12.79	4 3.55	0.451	6 47 53.10
Mon.	4	6 56 3.85	10.293	22 49 45.1	-13.78	4 14.19	0.437	6 51 49.66
Tues.	5	7 0 10.70	10.278	22 44 2.4	14.77	4 24.48	0.422	6 55 46.22
Wed.	6	7 4 17.19	10.262	22 37 56.0	15.75	4 34.41	0.406	6 59 42.78
Thur.	7	7 8 23.30	10.246	22 31 26.1	-16.73	4 43.96	0.390	7 3 39.34
Frid.	8	7 12 29.02	10.229	22 24 32.9	17.70	4 53.12	0.373	7 7 35.90
Sat.	9	7 16 34.32	10.212	22 17 16.5	18.66	5 1.87	0.356	7 11 32.45
SUN.	10	7 20 39.20	10.194	22 9 37.2	-19.61	5 10.20	0.338	7 15 29.01
Mon.	11	7 24 43.65	10.176	22 1 35.0	20.56	5 18.09	0.320	7 19 25.56
Tues.	12	7 28 47.65	10.157	21 53 10.1	21.50	5 25.53	0.301	7 23 22.12
Wed.	13	7 32 51.20	10.138	21 44 22.8	-22.43	5 32.52	0.282	7 27 18.68
Thur.	14	7 36 54.28	10.118	21 35 13.3	23.35	5 39.04	0.262	7 31 15.24
Frid.	15	7 40 56.88	10.098	21 25 41.6	24.27	5 45.08	0.242	7 35 11.80
Sat.	16	7 44 59.00	10.078	21 15 48.1	-25.18	5 50.64	0.222	7 39 8.36
SUN.	17	7 49 0.62	10.057	21 5 32.9	26.08	5 55.70	0.201	7 43 4.92
Mon.	18	7 53 1.72	10.035	20 54 56.2	26.97	6 0.25	0.179	7 47 1.48
Tues.	19	7 57 2.30	10.013	20 43 58.2	-27.85	6 4.27	0.157	7 50 58.03
Wed.	20	8 1 2.34	9.990	20 32 39.3	28.72	6 7.75	0.134	7 54 54.59
Thur.	21	8 5 1.84	9.967	20 20 59.6	29.58	6 10.69	0.111	7 58 51.15
Frid.	22	8 9 0.78	9.944	20 8 59.3	-30.43	6 13.07	0.088	8 2 47.71
Sat.	23	8 12 59.15	9.920	19 56 38.8	31.27	6 14.89	0.064	8 6 44.26
SUN.	24	8 16 56.94	9.896	19 43 58.2	32.10	6 16.12	0.040	8 10 40.82
Mon.	25	8 20 54.14	9.871	19 30 57.9	-32.92	6 16.76	0.015	8 14 37.38
Tues.	26	8 24 50.75	9.846	19 17 38.2	33.72	6 16.81	0.010	8 18 33.94
Wed.	27	8 28 46.75	9.821	19 3 59.3	34.50	6 16.26	0.035	8 22 30.49
Thur.	28	8 32 42.14	9.795	18 50 1.5	-35.29	6 15.09	0.061	8 26 27.05
Frid.	29	8 36 36.91	9.769	18 35 45.1	36.06	6 13.31	0.087	8 30 23.60
Sat.	30	8 40 31.06	9.743	18 21 10.4	36.82	6 10.90	0.113	8 34 20.16
SUN.	31	8 44 24.58	9.717	18 6 17.7	37.56	6 7.86	0.139	8 38 16.72
Mon.	32	8 48 17.48	9.691	N. 17 51 7.3	-38.29	6 4.20	0.165	8 42 13.28

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 Hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE			
		λ	λ'					
1	183	100° 2' 39.6	2 26.0	143.00	+ 0.58	0.0072298	- 0.1	17 17 9.64
2	184	100 59 51.3	59 37.6	142.99	0.47	0.0072284	1.0	17 13 13.72
3	185	101 57 2.8	56 48.9	142.98	0.35	0.0072250	1.8	17 9 17.81
4	186	102 54 14.1	54 0.0	142.97	+ 0.22	0.0072196	- 2.6	17 5 21.90
5	187	103 51 25.2	51 10.9	142.96	+ 0.09	0.0072124	3.3	17 1 25.99
6	188	104 48 36.1	48 21.6	142.96	- 0.04	0.0072035	4.0	16 57 30.08
7	189	105 45 46.9	45 32.2	142.96	- 0.16	0.0071931	- 4.6	16 53 34.17
8	190	106 42 57.8	42 42.9	142.96	0.26	0.0071812	5.3	16 49 38.26
9	191	107 40 8.9	39 53.8	142.97	0.34	0.0071678	5.9	16 45 42.34
10	192	108 37 20.2	37 4.9	142.98	- 0.39	0.0071530	- 6.5	16 41 46.43
11	193	109 34 31.7	34 16.2	142.99	0.40	0.0071368	7.1	16 37 50.52
12	194	110 31 43.6	31 27.9	143.00	0.38	0.0071191	7.7	16 33 54.61
13	195	111 28 56.0	28 40.1	143.02	- 0.34	0.0070998	- 8.3	16 29 58.70
14	196	112 26 8.9	25 52.9	143.05	0.27	0.0070790	9.0	16 26 2.78
15	197	113 23 22.5	23 6.3	143.08	0.18	0.0070565	9.7	16 22 6.87
16	198	114 20 36.8	20 20.4	143.11	- 0.07	0.0070322	-10.5	16 18 10.96
17	199	115 17 51.8	17 35.2	143.15	+ 0.06	0.0070059	11.4	16 14 15.05
18	200	116 15 7.5	14 50.7	143.18	0.19	0.0069775	12.3	16 10 19.13
19	201	117 12 24.0	12 7.1	143.21	+ 0.32	0.0069469	-13.2	16 6 23.22
20	202	118 9 41.3	9 24.2	143.24	0.45	0.0069140	14.2	16 2 27.31
21	203	119 6 59.4	6 42.1	143.27	0.56	0.0068788	15.2	15 58 31.40
22	204	120 4 18.2	4 0.8	143.30	+ 0.65	0.0068412	-16.2	15 54 35.48
23	205	121 1 37.8	1 20.2	143.33	0.71	0.0068010	17.3	15 50 39.57
24	206	121 58 58.1	58 40.4	143.36	0.74	0.0067582	18.3	15 46 43.66
25	207	122 56 19.2	56 1.3	143.39	+ 0.74	0.0067128	-19.4	15 42 47.75
26	208	123 53 40.9	53 22.8	143.42	0.71	0.0066650	20.4	15 38 51.83
27	209	124 51 3.2	50 44.9	143.44	0.66	0.0066147	21.5	15 34 55.92
28	210	125 48 26.1	48 7.7	143.47	+ 0.58	0.0065620	-22.4	15 31 0.01
29	211	126 45 49.6	45 31.1	143.50	0.47	0.0065071	23.3	15 27 4.10
30	212	127 43 13.8	42 55.1	143.53	0.35	0.0064500	24.2	15 23 8.19
31	213	128 40 38.6	40 19.6	143.55	0.22	0.0063908	25.0	15 19 12.28
32	214	129 38 3.9	37 44.8	143.58	+ 0.09	0.0063297	-25.8	15 15 16.37
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 14.0.								
Diff. for 1 Hour. —9 ^s .8296. (Table II.)								

GREENWICH MEAN TIME.

THE MOON'S									
Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	14 54.1	14 51.7	54 34.6	-0.85	54 25.7	-0.64	5 47.7	1.66	6.9
2	14 49.9	14 48.9	54 19.3	0.43	54 15.5	-0.22	6 27.3	1.65	7.9
3	14 48.5	14 48.9	54 14.2	-0.01	54 15.4	+0.21	7 7.4	1.69	8.9
4	14 49.8	14 51.5	54 19.1	+0.41	54 25.1	+0.59	7 49.2	1.80	9.9
5	14 53.7	14 56.4	54 33.1	0.76	54 43.1	0.91	8 33.6	1.93	10.9
6	14 59.6	15 3.3	54 55.0	1.06	55 8.4	1.17	9 21.5	2.07	11.9
7	15 7.3	15 11.5	55 23.0	+1.27	55 38.7	+1.35	10 13.1	2.21	12.9
8	15 16.0	15 20.6	55 55.2	1.40	56 12.1	1.43	11 7.7	2.32	13.9
9	15 25.3	15 30.0	56 29.3	1.43	56 46.4	1.42	12 4.1	2.36	14.9
10	15 34.6	15 39.0	57 3.3	+1.39	57 19.7	+1.34	13 0.4	2.33	15.9
11	15 43.3	15 47.3	57 35.3	1.27	57 50.1	1.20	13 55.1	2.23	16.9
12	15 51.1	15 54.5	58 3.9	1.11	58 16.6	1.01	14 47.3	2.13	17.9
13	15 57.7	16 0.6	58 28.2	+0.92	58 38.7	+0.82	15 37.2	2.04	18.9
14	16 3.1	16 5.2	58 47.9	0.72	58 55.9	0.63	16 25.4	1.99	19.9
15	16 7.1	16 8.7	59 2.9	0.53	59 8.6	0.44	17 13.1	1.99	20.9
16	16 9.9	16 10.9	59 13.2	+0.34	59 16.6	+0.24	18 1.7	2.05	21.9
17	16 11.5	16 11.7	59 18.8	+0.14	59 19.8	+0.03	18 52.4	2.17	22.9
18	16 11.6	16 11.1	59 19.4	-0.10	59 17.5	-0.22	19 46.2	2.31	23.9
19	16 10.2	16 8.9	59 14.2	-0.35	59 9.3	-0.49	20 43.6	2.46	24.9
20	16 7.1	16 4.8	59 2.7	0.62	58 54.4	0.77	21 43.7	2.53	25.9
21	16 2.1	15 58.9	58 44.3	0.91	58 32.5	1.06	22 44.7	2.52	26.9
22	15 55.2	15 51.2	58 19.1	-1.18	58 4.2	-1.30	23 44.1	2.41	27.9
23	15 46.7	15 42.0	57 47.9	1.41	57 30.5	1.49	0 40.0	2.23	28.9
24	15 37.0	15 31.9	57 12.2	1.55	56 53.4	1.59			0.5
25	15 26.7	15 21.5	56 34.3	-1.59	56 15.3	-1.57	1 31.3	2.05	1.5
26	15 16.4	15 11.6	55 56.7	1.52	55 38.9	1.45	2 18.3	1.88	2.5
27	15 7.0	15 2.8	55 22.1	1.35	55 6.7	1.21	3 1.8	1.75	3.5
28	14 59.1	14 55.9	54 53.0	-1.07	54 41.1	-0.91	3 43.0	1.68	4.5
29	14 53.2	14 51.1	54 31.2	0.74	54 23.6	0.54	4 22.9	1.65	5.5
30	14 49.7	14 48.9	54 18.4	-0.34	54 15.7	-0.12	5 2.8	1.67	6.5
31	14 48.9	14 49.6	54 15.6	+0.10	54 18.0	+0.31	5 43.8	1.75	7.5
32	14 50.9	14 53.0	54 23.0	+0.52	54 30.5	+0.73	6 26.9	1.86	8.5

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	^h 12 ^m 18 ^s 25.02	1.7779	N. 1° 44' 23.3"	13.715	0	^h 13 ^m 43 ^s 32.80	1.7989	S. 9° 0' 43.2"	12.917
1	12 20 11.61	1.7759	1 30 40.4	13.713	1	13 45 20.80	1.8011	9 13 37.3	12.885
2	12 21 58.13	1.7746	1 16 57.7	13.711	2	13 47 8.93	1.8033	9 26 29.4	12.851
3	12 23 44.57	1.7734	1 3 15.1	13.708	3	13 48 57.20	1.8057	9 39 19.4	12.817
4	12 25 30.94	1.7723	0 49 32.7	13.705	4	13 50 45.62	1.8089	9 52 7.4	12.789
5	12 27 17.25	1.7712	0 35 50.5	13.701	5	13 52 34.19	1.8107	10 4 53.3	12.747
6	12 29 3.49	1.7702	0 22 8.6	13.696	6	13 54 22.91	1.8133	10 17 37.0	12.710
7	12 30 49.68	1.7694	N. 0 8 27.0	13.691	7	13 56 11.79	1.8161	10 30 18.5	12.673
8	12 32 35.82	1.7687	S. 0 5 14.3	13.685	8	13 58 0.84	1.8188	10 42 57.8	12.636
9	12 34 21.92	1.7680	0 18 55.2	13.678	9	13 59 50.05	1.8216	10 55 34.9	12.598
10	12 36 7.98	1.7673	0 32 35.7	13.671	10	14 1 39.43	1.8245	11 8 9.6	12.559
11	12 37 54.00	1.7667	0 46 15.7	13.663	11	14 3 28.99	1.8274	11 20 41.9	12.519
12	12 39 39.98	1.7662	0 59 55.2	13.654	12	14 5 18.72	1.8304	11 33 11.9	12.479
13	12 41 25.94	1.7658	1 13 34.2	13.645	13	14 7 8.64	1.8336	11 45 39.4	12.438
14	12 43 11.88	1.7655	1 27 12.6	13.635	14	14 8 58.75	1.8367	11 58 4.4	12.396
15	12 44 57.80	1.7653	1 40 50.4	13.625	15	14 10 49.05	1.8399	12 10 26.9	12.353
16	12 46 43.70	1.7650	1 54 27.6	13.614	16	14 12 39.54	1.8432	12 22 46.8	12.309
17	12 48 29.60	1.7649	2 8 4.1	13.602	17	14 14 30.23	1.8466	12 35 4.0	12.264
18	12 50 15.49	1.7648	2 21 39.8	13.589	18	14 16 21.13	1.8500	12 47 18.5	12.219
19	12 52 1.38	1.7649	2 35 14.8	13.576	19	14 18 12.23	1.8535	12 59 30.3	12.174
20	12 53 47.28	1.7651	2 48 49.0	13.563	20	14 20 3.55	1.8571	13 11 39.4	12.127
21	12 55 33.19	1.7653	3 2 22.3	13.547	21	14 21 55.08	1.8607	13 23 45.6	12.079
22	12 57 19.12	1.7656	3 15 54.7	13.532	22	14 23 46.83	1.8643	13 35 48.9	12.031
23	12 59 5.06	1.7659	S. 3 29 26.2	13.517	23	14 25 38.80	1.8680	S. 13 47 49.3	11.983
SATURDAY 2.					MONDAY 4.				
0	13 0 51.02	1.7663	S. 3 42 56.8	13.501	0	14 27 30.99	1.8718	S. 13 59 46.8	11.933
1	13 2 37.01	1.7668	3 56 26.4	13.484	1	14 29 23.41	1.8757	14 11 41.3	11.889
2	13 4 23.04	1.7674	4 9 54.9	13.467	2	14 31 16.07	1.8797	14 23 32.7	11.839
3	13 6 9.10	1.7680	4 23 22.4	13.449	3	14 33 8.97	1.8837	14 35 20.9	11.777
4	13 7 55.20	1.7688	4 36 48.8	13.430	4	14 35 2.11	1.8877	14 47 6.0	11.725
5	13 9 41.35	1.7696	4 50 14.0	13.410	5	14 36 55.49	1.8918	14 58 47.9	11.673
6	13 11 27.55	1.7704	5 3 38.0	13.390	6	14 38 49.12	1.8959	15 10 26.6	11.617
7	13 13 13.80	1.7714	5 17 0.8	13.369	7	14 40 43.00	1.9002	15 22 2.0	11.569
8	13 15 0.12	1.7725	5 30 22.3	13.348	8	14 42 37.14	1.9044	15 33 34.0	11.505
9	13 16 46.50	1.7736	5 43 42.5	13.326	9	14 44 31.53	1.9087	15 45 2.6	11.447
10	13 18 32.95	1.7747	5 57 1.4	13.303	10	14 46 26.18	1.9131	15 56 27.7	11.388
11	13 20 19.47	1.7759	6 10 18.9	13.280	11	14 48 21.10	1.9176	16 7 49.2	11.326
12	13 22 6.06	1.7772	6 23 35.0	13.257	12	14 50 16.29	1.9221	16 19 7.1	11.266
13	13 23 52.74	1.7787	6 36 49.7	13.233	13	14 52 11.75	1.9267	16 30 21.4	11.206
14	13 25 39.50	1.7801	6 50 2.8	13.208	14	14 54 7.49	1.9313	16 41 32.1	11.146
15	13 27 26.35	1.7816	7 3 14.4	13.180	15	14 56 3.50	1.9358	16 52 39.0	11.083
16	13 29 13.29	1.7832	7 16 24.4	13.154	16	14 57 59.79	1.9406	17 3 42.1	11.020
17	13 31 0.34	1.7850	7 29 32.8	13.127	17	14 59 56.37	1.9454	17 14 41.4	10.956
18	13 32 47.49	1.7868	7 42 30.6	13.099	18	15 1 53.24	1.9503	17 25 36.8	10.890
19	13 34 34.75	1.7886	7 55 44.7	13.070	19	15 3 50.40	1.9551	17 36 28.2	10.823
20	13 36 22.12	1.7904	8 8 48.0	13.041	20	15 5 47.85	1.9599	17 47 15.6	10.756
21	13 38 9.60	1.7923	8 21 49.6	13.011	21	15 7 45.59	1.9649	17 57 58.9	10.687
22	13 39 57.20	1.7944	8 34 49.3	12.980	22	15 9 43.64	1.9700	18 8 38.1	10.618
23	13 41 44.93	1.7966	8 47 47.2	12.949	23	15 11 41.99	1.9750	18 19 13.1	10.548
24	13 43 32.80	1.7989	S. 9 0 43.2	12.917	24	15 13 40.64	1.9801	S. 18 29 43.9	10.477

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
0	15 13 40.64	1.9801	S. 18° 29' 43.9"	10.477	0	16 55 7.52	2.2500	S. 25° 10' 51.8"	5.822
1	15 15 39.60	1.9852	18 40 10.4	10.405	1	16 57 22.68	2.2554	25 16 37.4	5.698
2	15 17 38.87	1.9904	18 50 32.5	10.332	2	16 59 38.17	2.2609	25 22 15.6	5.574
3	15 19 38.45	1.9957	19 0 50.2	10.257	3	17 1 53.99	2.2663	25 27 46.3	5.448
4	15 21 38.35	2.0009	19 11 3.4	10.182	4	17 4 10.13	2.2716	25 33 9.4	5.322
5	15 23 38.56	2.0062	19 21 12.1	10.106	5	17 6 26.58	2.2768	25 38 24.9	5.193
6	15 25 39.09	2.0115	19 31 16.1	10.028	6	17 8 43.35	2.2821	25 43 32.6	5.064
7	15 27 39.94	2.0169	19 41 15.4	9.949	7	17 11 0.43	2.2873	25 48 32.6	4.935
8	15 29 41.12	2.0223	19 51 10.0	9.871	8	17 13 17.82	2.2925	25 53 24.8	4.804
9	15 31 42.62	2.0277	20 0 59.9	9.792	9	17 15 35.51	2.2977	25 58 9.1	4.673
10	15 33 44.45	2.0332	20 10 45.0	9.711	10	17 17 53.50	2.3029	26 2 45.4	4.539
11	15 35 46.61	2.0387	20 20 25.2	9.628	11	17 20 11.79	2.3073	26 7 13.8	4.406
12	15 37 49.10	2.0442	20 30 0.4	9.544	12	17 22 30.38	2.3123	26 11 34.1	4.271
13	15 39 51.92	2.0498	20 39 30.5	9.460	13	17 24 49.26	2.3170	26 15 46.3	4.135
14	15 41 55.08	2.0555	20 48 55.6	9.375	14	17 27 8.42	2.3217	26 19 50.3	3.998
15	15 43 58.58	2.0612	20 58 15.5	9.288	15	17 29 27.86	2.3263	26 23 46.1	3.861
16	15 46 2.42	2.0668	21 7 30.1	9.200	16	17 31 47.58	2.3309	26 27 33.6	3.722
17	15 48 6.59	2.0724	21 16 39.5	9.112	17	17 34 7.57	2.3354	26 31 12.7	3.583
18	15 50 11.10	2.0781	21 25 43.5	9.022	18	17 36 27.83	2.3399	26 34 43.5	3.443
19	15 52 15.96	2.0838	21 34 42.1	8.931	19	17 38 48.36	2.3444	26 38 5.9	3.302
20	15 54 21.16	2.0896	21 43 35.2	8.839	20	17 41 9.14	2.3484	26 41 19.7	3.159
21	15 56 26.71	2.0953	21 52 22.8	8.747	21	17 43 30.17	2.3526	26 44 25.0	3.016
22	15 58 32.60	2.1011	22 1 4.8	8.653	22	17 45 51.45	2.3567	26 47 21.7	2.873
23	16 0 38.84	2.1068	S. 22° 9' 41.1"	8.558	23	17 48 12.98	2.3608	S. 26° 50' 9.7"	2.728
WEDNESDAY 6.					FRIDAY 8.				
0	16 2 45.42	2.1126	S. 22° 18' 11.7"	8.462	0	17 50 34.75	2.3647	S. 26° 52' 49.1"	2.583
1	16 4 52.35	2.1184	22 26 36.5	8.364	1	17 52 56.75	2.3686	26 55 19.7	2.437
2	16 6 59.63	2.1242	22 34 55.4	8.265	2	17 55 18.98	2.3723	26 57 41.5	2.290
3	16 9 7.26	2.1301	22 43 8.3	8.165	3	17 57 41.43	2.3760	26 59 54.5	2.142
4	16 11 15.24	2.1359	22 51 15.2	8.065	4	18 0 4.10	2.3795	27 1 58.6	1.994
5	16 13 23.57	2.1417	22 59 16.1	7.964	5	18 2 26.97	2.3829	27 3 53.8	1.846
6	16 15 32.24	2.1474	23 7 10.9	7.862	6	18 4 50.05	2.3863	27 5 40.1	1.697
7	16 17 41.26	2.1533	23 14 59.5	7.758	7	18 7 13.33	2.3896	27 7 17.4	1.546
8	16 19 50.64	2.1591	23 22 41.8	7.652	8	18 9 36.80	2.3927	27 8 45.6	1.394
9	16 22 0.36	2.1649	23 30 17.7	7.545	9	18 12 0.46	2.3958	27 10 4.7	1.243
10	16 24 10.43	2.1708	23 37 47.2	7.438	10	18 14 24.30	2.3987	27 11 14.7	1.091
11	16 26 20.85	2.1766	23 45 10.3	7.330	11	18 16 48.31	2.4016	27 12 15.6	0.938
12	16 28 31.62	2.1823	23 52 26.8	7.220	12	18 19 12.49	2.4043	27 13 7.3	0.785
13	16 30 42.73	2.1881	23 59 36.7	7.110	13	18 21 36.83	2.4070	27 13 49.8	0.631
14	16 32 54.19	2.1939	24 6 40.0	6.999	14	18 24 1.33	2.4095	27 14 23.0	0.477
15	16 35 6.00	2.1996	24 13 36.6	6.886	15	18 26 25.97	2.4118	27 14 47.0	0.323
16	16 37 18.15	2.2053	24 20 26.3	6.772	16	18 28 50.75	2.4141	27 15 1.7	0.167
17	16 39 30.64	2.2110	24 27 9.2	6.657	17	18 31 15.67	2.4163	27 15 7.0	-0.010
18	16 41 43.47	2.2167	24 33 45.2	6.542	18	18 33 40.71	2.4183	27 15 2.9	+0.146
19	16 43 56.64	2.2223	24 40 14.2	6.424	19	18 36 5.87	2.4203	27 14 49.5	0.302
20	16 46 10.15	2.2279	24 46 36.1	6.306	20	18 38 31.15	2.4222	27 14 26.7	0.459
21	16 48 23.99	2.2336	24 52 50.9	6.187	21	18 40 56.54	2.4240	27 13 54.4	0.617
22	16 50 38.17	2.2391	24 58 58.5	6.066	22	18 43 22.03	2.4256	27 13 12.7	0.774
23	16 52 52.68	2.2446	25 4 58.8	5.944	23	18 45 47.61	2.4270	27 12 21.5	0.932
24	16 55 7.52	2.2500	S. 25° 10' 51.8"	5.822	24	18 48 13.27	2.4283	S. 27° 11' 20.9"	1.089

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	18 48 13.27	2.4283	S. 27 11' 20.9"	1.089	0	20 44 12.25	2.3658	S. 23 18' 25.7"	8.462
1	18 50 39.01	2.4296	27 10 10.8	1.248	1	20 46 34.10	2.3624	23 9 53.8	8.601
2	18 53 4.82	2.4307	27 8 51.2	1.407	2	20 48 55.74	2.3589	23 1 13.6	8.738
3	18 55 30.70	2.4318	27 7 22.0	1.566	3	20 51 17.17	2.3554	22 52 25.2	8.875
4	18 57 56.64	2.4327	27 5 43.3	1.724	4	20 53 38.30	2.3518	22 43 28.6	9.011
5	19 0 22.63	2.4334	27 3 55.1	1.883	5	20 55 59.39	2.3482	22 34 23.9	9.146
6	19 2 48.65	2.4340	27 1 57.3	2.042	6	20 58 20.18	2.3446	22 25 11.1	9.280
7	19 5 14.71	2.4346	26 59 50.0	2.202	7	21 0 40.75	2.3409	22 15 50.3	9.412
8	19 7 40.80	2.4350	26 57 33.1	2.361	8	21 3 1.09	2.3371	22 6 21.6	9.544
9	19 10 6.91	2.4353	26 55 6.7	2.520	9	21 5 21.20	2.3333	21 56 45.0	9.675
10	19 12 33.04	2.4355	26 52 30.7	2.679	10	21 7 41.09	2.3296	21 47 0.6	9.805
11	19 14 59.17	2.4355	26 49 45.2	2.838	11	21 10 0.75	2.3258	21 37 8.4	9.933
12	19 17 25.30	2.4355	26 46 50.2	2.997	12	21 12 20.18	2.3219	21 27 8.6	10.060
13	19 19 51.43	2.4353	26 43 45.6	3.156	13	21 14 39.38	2.3180	21 17 1.2	10.187
14	19 22 17.54	2.4350	26 40 31.5	3.315	14	21 16 58.34	2.3141	21 6 46.2	10.313
15	19 24 43.63	2.4347	26 37 7.8	3.474	15	21 19 17.07	2.3102	20 56 23.7	10.437
16	19 27 9.70	2.4342	26 33 34.6	3.632	16	21 21 35.56	2.3062	20 45 53.8	10.559
17	19 29 35.73	2.4335	26 29 52.0	3.790	17	21 23 53.81	2.3022	20 35 16.6	10.680
18	19 32 1.72	2.4327	26 25 59.8	3.949	18	21 26 11.82	2.2982	20 24 32.2	10.800
19	19 34 27.66	2.4319	26 21 58.1	4.107	19	21 28 29.59	2.2942	20 13 40.6	10.920
20	19 36 53.55	2.4310	26 17 47.0	4.264	20	21 30 47.12	2.2902	20 2 41.8	11.038
21	19 39 19.38	2.4299	26 13 26.4	4.421	21	21 33 4.41	2.2862	19 51 36.0	11.154
22	19 41 45.14	2.4287	26 8 56.4	4.578	22	21 35 21.46	2.2822	19 40 23.3	11.270
23	19 44 10.83	2.4274	S. 26 4 17.0	4.735	23	21 37 38.27	2.2782	S. 19 29 3.6	11.385
SUNDAY 10.					TUESDAY 12.				
0	19 46 36.43	2.4260	S. 25 59 28.2	4.891	0	21 39 54.84	2.2742	S. 19 17 37.1	11.498
1	19 49 1.95	2.4246	25 54 30.1	5.047	1	21 42 11.17	2.2701	19 6 3.8	11.610
2	19 51 27.38	2.4230	25 49 22.6	5.202	2	21 44 27.25	2.2660	18 54 23.9	11.720
3	19 53 52.71	2.4213	25 44 5.8	5.357	3	21 46 43.09	2.2620	18 42 37.4	11.829
4	19 56 17.93	2.4195	25 38 39.7	5.512	4	21 48 58.69	2.2580	18 30 44.4	11.937
5	19 58 43.05	2.4177	25 33 4.4	5.666	5	21 51 14.05	2.2539	18 18 44.9	12.044
6	20 1 8.05	2.4157	25 27 19.8	5.819	6	21 53 29.16	2.2499	18 6 39.1	12.149
7	20 3 32.93	2.4136	25 21 26.1	5.972	7	21 55 44.04	2.2460	17 54 27.0	12.253
8	20 5 57.68	2.4114	25 15 23.2	6.124	8	21 57 58.68	2.2420	17 42 8.7	12.357
9	20 8 22.29	2.4091	25 9 11.2	6.276	9	22 0 13.08	2.2381	17 29 44.2	12.458
10	20 10 46.77	2.4068	25 2 50.1	6.427	10	22 2 27.25	2.2342	17 17 13.7	12.558
11	20 13 11.11	2.4043	24 56 20.0	6.577	11	22 4 41.18	2.2302	17 4 37.2	12.657
12	20 15 35.29	2.4017	24 49 40.8	6.727	12	22 6 54.87	2.2263	16 51 54.9	12.754
13	20 17 59.32	2.3992	24 42 52.7	6.876	13	22 9 8.33	2.2224	16 39 6.8	12.850
14	20 20 23.19	2.3966	24 35 55.7	7.024	14	22 11 21.56	2.2186	16 26 12.9	12.946
15	20 22 46.91	2.3939	24 28 49.8	7.172	15	22 13 34.56	2.2148	16 13 13.3	13.040
16	20 25 10.46	2.3910	24 21 35.1	7.318	16	22 15 47.33	2.2110	16 0 8.1	13.132
17	20 27 33.83	2.3880	24 14 11.6	7.464	17	22 17 59.88	2.2073	15 46 57.5	13.222
18	20 29 57.02	2.3850	24 6 39.4	7.609	18	22 20 12.21	2.2036	15 33 41.5	13.312
19	20 32 20.03	2.3820	23 58 58.5	7.753	19	22 22 24.31	2.1999	15 20 20.1	13.400
20	20 34 42.86	2.3789	23 51 9.0	7.897	20	22 24 36.19	2.1963	15 6 53.5	13.488
21	20 37 5.50	2.3757	23 43 10.9	8.039	21	22 26 47.86	2.1927	14 53 21.8	13.571
22	20 39 27.95	2.3725	23 35 4.3	8.181	22	22 28 59.31	2.1891	14 39 45.0	13.656
23	20 41 50.20	2.3692	23 26 49.2	8.322	23	22 31 10.55	2.1855	14 26 3.1	13.739
24	20 44 12.25	2.3658	S. 23 18 25.7	8.462	24	22 33 21.57	2.1820	S. 14 12 16.3	13.820

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	22 33 21.57	2.1890	S. 14° 12' 16.3"	13.890	0	0 15 10.77	2.0673	S. 2° 1' 28.0"	16.096
1	22 35 32.39	2.1796	13 58 24.7	13.900	1	0 17 16.00	2.0671	1 45 21.7	16.118
2	22 37 43.00	2.1752	13 44 28.3	13.978	2	0 19 21.22	2.0670	1 29 14.6	16.194
3	22 39 53.41	2.1718	13 30 27.3	14.055	3	0 21 26.44	2.0670	1 13 6.8	16.135
4	22 42 3.62	2.1685	13 16 21.7	14.131	4	0 23 31.66	2.0672	0 56 58.4	16.144
5	22 44 13.63	2.1653	13 2 11.6	14.206	5	0 25 36.90	2.0674	0 40 49.5	16.159
6	22 46 23.45	2.1621	12 47 57.0	14.279	6	0 27 42.15	2.0677	0 24 40.1	16.159
7	22 48 33.08	2.1589	12 33 38.1	14.351	7	0 29 47.42	2.0681	S. 0 8 30.4	16.164
8	22 50 42.52	2.1557	12 19 14.9	14.421	8	0 31 52.72	2.0685	N. 0 7 39.6	16.167
9	22 52 51.77	2.1527	12 4 47.6	14.489	9	0 33 58.04	2.0690	0 23 49.7	16.169
10	22 55 0.84	2.1498	11 50 16.2	14.557	10	0 36 3.40	2.0697	0 39 59.9	16.171
11	22 57 9.74	2.1469	11 35 40.7	14.624	11	0 38 8.81	2.0905	0 56 10.2	16.171
12	22 59 18.47	2.1441	11 21 1.3	14.689	12	0 40 14.26	2.0913	1 12 20.4	16.168
13	23 1 27.03	2.1412	11 6 18.0	14.752	13	0 42 19.76	2.0922	1 28 30.4	16.165
14	23 3 35.42	2.1384	10 51 31.0	14.813	14	0 44 25.32	2.0931	1 44 40.2	16.161
15	23 5 43.64	2.1357	10 36 40.4	14.873	15	0 46 30.93	2.0941	2 0 49.7	16.155
16	23 7 51.70	2.1331	10 21 46.2	14.933	16	0 48 36.61	2.0953	2 16 58.8	16.147
17	23 9 59.61	2.1306	10 6 48.4	14.992	17	0 50 42.37	2.0966	2 33 7.4	16.138
18	23 12 7.37	2.1281	9 51 47.2	15.048	18	0 52 48.20	2.0979	2 49 15.4	16.128
19	23 14 14.98	2.1257	9 36 42.6	15.103	19	0 54 54.11	2.0992	3 5 22.8	16.117
20	23 16 22.45	2.1233	9 21 34.8	15.157	20	0 57 0.11	2.1007	3 21 29.4	16.103
21	23 18 29.77	2.1209	9 6 23.8	15.209	21	0 59 6.20	2.1023	3 37 35.1	16.088
22	23 20 36.96	2.1186	8 51 9.7	15.260	22	1 1 12.39	2.1040	3 53 39.9	16.073
23	23 22 44.02	2.1167	S. 8 35 52.6	15.309	23	1 3 18.68	2.1057	N. 4 9 43.8	16.056
THURSDAY 14.					SATURDAY 16.				
0	23 24 50.96	2.1147	S. 8 20 32.6	15.357	0	1 5 25.08	2.1076	N. 4 25 46.6	16.037
1	23 26 57.78	2.1126	8 5 9.7	15.405	1	1 7 31.59	2.1095	4 41 48.2	16.016
2	23 29 4.47	2.1105	7 49 44.0	15.450	2	1 9 38.22	2.1115	4 57 48.5	15.993
3	23 31 11.04	2.1086	7 34 15.7	15.494	3	1 11 44.97	2.1136	5 13 47.4	15.970
4	23 33 17.50	2.1068	7 18 44.8	15.537	4	1 13 51.85	2.1158	5 29 44.9	15.946
5	23 35 23.86	2.1052	7 3 11.3	15.578	5	1 15 58.87	2.1181	5 45 40.9	15.920
6	23 37 30.12	2.1036	6 47 35.4	15.617	6	1 18 6.02	2.1204	6 1 35.3	15.892
7	23 39 36.29	2.1020	6 31 57.2	15.656	7	1 20 13.31	2.1227	6 17 28.0	15.863
8	23 41 42.36	2.1004	6 16 16.7	15.693	8	1 22 20.75	2.1253	6 33 18.9	15.839
9	23 43 48.34	2.0990	6 0 34.0	15.729	9	1 24 28.35	2.1279	6 49 7.9	15.800
10	23 45 54.24	2.0977	5 44 49.2	15.763	10	1 26 36.10	2.1306	7 4 54.9	15.767
11	23 48 0.06	2.0964	5 29 2.4	15.797	11	1 28 44.02	2.1334	7 20 39.9	15.732
12	23 50 5.81	2.0953	5 13 13.6	15.828	12	1 30 52.11	2.1362	7 36 22.8	15.696
13	23 52 11.49	2.0943	4 57 23.0	15.858	13	1 33 0.37	2.1391	7 52 3.4	15.658
14	23 54 17.11	2.0931	4 41 30.6	15.887	14	1 35 8.80	2.1421	8 7 41.7	15.618
15	23 56 22.66	2.0920	4 25 36.6	15.914	15	1 37 17.42	2.1452	8 23 17.6	15.577
16	23 58 28.15	2.0912	4 9 41.0	15.940	16	1 39 26.23	2.1484	8 38 51.0	15.535
17	0 0 33.60	2.0905	3 53 43.8	15.965	17	1 41 35.23	2.1516	8 54 21.8	15.492
18	0 2 39.01	2.0898	3 37 45.2	15.988	18	1 43 44.42	2.1549	9 9 50.0	15.447
19	0 4 44.38	2.0891	3 21 45.2	16.010	19	1 45 53.82	2.1584	9 25 15.4	15.399
20	0 6 49.71	2.0885	3 5 44.0	16.030	20	1 48 3.43	2.1618	9 40 37.9	15.351
21	0 8 55.00	2.0880	2 49 41.6	16.049	21	1 50 13.24	2.1653	9 55 57.5	15.308
22	0 11 0.27	2.0877	2 33 38.1	16.067	22	1 52 23.27	2.1690	10 11 14.1	15.250
23	0 13 5.53	2.0875	2 17 33.5	16.084	23	1 54 33.52	2.1727	10 26 27.5	15.196
24	0 15 10.77	2.0873	S. 2 1 28.0	16.098	24	1 56 43.99	2.1764	N. 10 41 37.6	15.141

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	1 56 43.99	2.1784	N.10 41' 37.6"	15.141	0	3 46 39.87	2.4185	N.21 15' 51.7"	10.873
1	1 58 54.69	2.1803	10 56 44.4	15.086	1	3 49 5.15	2.4241	21 26 28.2	10.549
2	2 1 5.63	2.1849	11 11 47.9	15.059	2	3 51 30.76	2.4295	21 36 56.7	10.408
3	2 3 16.80	2.1882	11 26 47.9	14.970	3	3 53 56.69	2.4349	21 47 17.2	10.274
4	2 5 28.21	2.1922	11 41 44.3	14.900	4	3 56 22.95	2.4404	21 57 29.6	10.138
5	2 7 39.87	2.1964	11 56 37.0	14.847	5	3 58 49.54	2.4459	22 7 33.8	10.000
6	2 9 51.78	2.2007	12 11 25.9	14.783	6	4 1 16.46	2.4513	22 17 29.6	9.880
7	2 12 3.95	2.2049	12 26 10.9	14.718	7	4 3 43.70	2.4568	22 27 17.0	9.790
8	2 14 16.37	2.2092	12 40 52.0	14.651	8	4 6 11.26	2.4619	22 36 56.0	9.579
9	2 16 29.05	2.2136	12 55 29.0	14.589	9	4 8 39.13	2.4671	22 46 26.5	9.436
10	2 18 42.00	2.2181	13 10 1.9	14.519	10	4 11 7.31	2.4724	22 55 48.3	9.390
11	2 20 55.22	2.2226	13 24 30.5	14.441	11	4 13 35.81	2.4776	23 5 1.3	9.143
12	2 23 8.71	2.2273	13 38 54.8	14.368	12	4 16 4.62	2.4827	23 14 5.5	8.998
13	2 25 22.48	2.2319	13 53 14.7	14.293	13	4 18 33.74	2.4877	23 23 0.8	8.847
14	2 27 36.53	2.2366	14 7 30.0	14.217	14	4 21 3.15	2.4927	23 31 47.1	8.697
15	2 29 50.87	2.2413	14 21 40.7	14.139	15	4 23 32.86	2.4977	23 40 24.4	8.545
16	2 32 5.49	2.2461	14 35 46.7	14.060	16	4 26 2.87	2.5025	23 48 52.5	8.392
17	2 34 20.40	2.2510	14 49 47.9	13.978	17	4 28 33.16	2.5079	23 57 11.4	8.238
18	2 36 35.61	2.2559	15 3 44.1	13.895	18	4 31 3.74	2.5130	24 5 21.1	8.083
19	2 38 51.11	2.2608	15 17 35.3	13.812	19	4 33 34.60	2.5167	24 13 21.4	7.926
20	2 41 6.91	2.2659	15 31 21.5	13.726	20	4 36 5.74	2.5213	24 21 12.2	7.767
21	2 43 23.02	2.2710	15 45 2.4	13.638	21	4 38 37.15	2.5258	24 28 53.5	7.608
22	2 45 39.43	2.2761	15 58 38.0	13.549	22	4 41 8.83	2.5302	24 36 25.2	7.448
23	2 47 56.15	2.2813	N.16 12 8.3	13.459	23	4 43 40.77	2.5344	N.24 43 47.3	7.287
MONDAY 18.					WEDNESDAY 20.				
0	2 50 13.19	2.2866	N.16 25 33.1	13.367	0	4 46 12.96	2.5388	N.24 50 59.7	7.125
1	2 52 30.54	2.2918	16 38 52.3	13.273	1	4 48 45.40	2.5427	24 58 2.3	6.961
2	2 54 48.20	2.2970	16 52 5.8	13.177	2	4 51 18.09	2.5468	25 4 55.0	6.796
3	2 57 6.18	2.3023	17 5 13.5	13.080	3	4 53 51.02	2.5507	25 11 37.8	6.630
4	2 59 24.48	2.3077	17 18 15.4	12.989	4	4 56 24.18	2.5546	25 18 10.6	6.463
5	3 1 43.10	2.3131	17 31 11.3	12.891	5	4 58 57.57	2.5583	25 24 33.4	6.296
6	3 4 2.05	2.3186	17 44 1.1	12.779	6	5 1 31.17	2.5618	25 30 46.1	6.127
7	3 6 21.33	2.3240	17 56 44.8	12.676	7	5 4 4.98	2.5652	25 36 48.6	5.957
8	3 8 40.93	2.3294	18 9 22.2	12.570	8	5 6 39.00	2.5686	25 42 40.9	5.787
9	3 11 0.86	2.3349	18 21 53.2	12.463	9	5 9 13.22	2.5719	25 48 23.0	5.615
10	3 13 21.12	2.3404	18 34 17.8	12.355	10	5 11 47.63	2.5750	25 53 54.7	5.443
11	3 15 41.71	2.3460	18 46 35.8	12.245	11	5 14 22.23	2.5781	25 59 16.1	5.270
12	3 18 2.64	2.3516	18 58 47.2	12.134	12	5 16 57.00	2.5809	26 4 27.1	5.096
13	3 20 23.90	2.3571	19 10 51.9	12.021	13	5 19 31.94	2.5837	26 9 27.6	4.921
14	3 22 45.49	2.3627	19 22 49.7	11.906	14	5 22 7.04	2.5863	26 14 17.6	4.746
15	3 25 7.42	2.3682	19 34 40.6	11.790	15	5 24 42.30	2.5888	26 18 57.1	4.570
16	3 27 29.68	2.3738	19 46 24.5	11.673	16	5 27 17.70	2.5911	26 23 26.0	4.393
17	3 29 52.28	2.3795	19 58 1.3	11.553	17	5 29 53.23	2.5938	26 27 44.2	4.215
18	3 32 15.22	2.3851	20 9 30.9	11.432	18	5 32 28.89	2.5963	26 31 51.8	4.037
19	3 34 38.49	2.3907	20 20 53.2	11.310	19	5 35 4.67	2.5979	26 35 48.7	3.859
20	3 37 2.10	2.3963	20 32 8.1	11.186	20	5 37 40.56	2.5991	26 39 34.9	3.681
21	3 39 26.04	2.4018	20 43 15.5	11.060	21	5 40 16.56	2.6007	26 43 10.4	3.502
22	3 41 50.32	2.4074	20 54 15.3	10.932	22	5 42 52.65	2.6022	26 46 35.1	3.321
23	3 44 14.93	2.4129	21 5 7.4	10.803	23	5 45 28.82	2.6035	26 49 48.9	3.140
24	3 46 39.87	2.4185	N.21 15 51.7	10.673	24	5 48 5.07	2.6047	N.26 52 51.9	2.959

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	5 48 5.07	2.6047	N. 26 52 51.9	2.959	0	7 51 29.68	2.4819	N. 25 49 12.9	5.393
1	5 50 41.38	2.6057	26 55 44.0	2.778	1	7 53 58.38	2.4754	25 43 44.7	5.547
2	5 53 17.75	2.6066	26 58 25.3	2.597	2	7 56 26.73	2.4695	25 38 7.3	5.698
3	5 55 54.17	2.6073	27 0 55.7	2.416	3	7 58 54.72	2.4635	25 32 20.9	5.848
4	5 58 30.63	2.6078	27 3 15.2	2.234	4	8 1 22.35	2.4574	25 26 25.5	5.998
5	6 1 7.11	2.6082	27 5 23.8	2.053	5	8 3 49.61	2.4513	25 20 21.1	6.147
6	6 3 43.61	2.6084	27 7 21.6	1.872	6	8 6 16.51	2.4452	25 14 7.9	6.293
7	6 6 20.12	2.6085	27 9 8.4	1.690	7	8 8 43.03	2.4389	25 7 45.9	6.439
8	6 8 56.63	2.6085	27 10 44.3	1.507	8	8 11 9.17	2.4324	25 1 15.2	6.582
9	6 11 33.14	2.6083	27 12 9.2	1.324	9	8 13 34.92	2.4260	24 54 36.0	6.724
10	6 14 9.63	2.6078	27 13 23.2	1.142	10	8 16 0.29	2.4195	24 47 48.3	6.866
11	6 16 46.08	2.6072	27 14 26.3	0.961	11	8 18 25.26	2.4130	24 40 52.1	7.007
12	6 19 22.49	2.6064	27 15 18.5	0.779	12	8 20 49.84	2.4063	24 33 47.5	7.145
13	6 21 58.85	2.6056	27 15 59.7	0.597	13	8 23 14.02	2.3997	24 26 34.7	7.289
14	6 24 35.16	2.6046	27 16 30.1	0.416	14	8 25 37.80	2.3929	24 19 13.7	7.417
15	6 27 11.40	2.6033	27 16 49.6	0.234	15	8 28 1.17	2.3861	24 11 44.7	7.550
16	6 29 47.56	2.6020	27 16 58.2	+ 0.053	16	8 30 24.13	2.3792	24 4 7.7	7.682
17	6 32 23.64	2.6005	27 16 56.0	- 0.127	17	8 32 46.68	2.3723	23 56 22.8	7.813
18	6 34 59.62	2.5987	27 16 42.9	0.306	18	8 35 8.81	2.3653	23 48 30.1	7.943
19	6 37 35.49	2.5969	27 16 19.0	0.488	19	8 37 30.52	2.3584	23 40 29.7	8.071
20	6 40 11.25	2.5949	27 15 44.3	0.668	20	8 39 51.82	2.3515	23 32 21.6	8.197
21	6 42 46.88	2.5927	27 14 58.8	0.847	21	8 42 12.70	2.3445	23 24 6.0	8.322
22	6 45 22.38	2.5905	27 14 2.6	1.026	22	8 44 33.16	2.3374	23 15 43.0	8.445
23	6 47 57.74	2.5880	N. 27 12 55.7	1.204	23	8 46 53.19	2.3302	N. 23 7 12.6	8.567
FRIDAY 22.					SUNDAY 24.				
0	6 50 32.94	2.5853	N. 27 11 38.1	1.389	0	8 49 12.79	2.3231	N. 22 58 35.0	8.687
1	6 53 7.98	2.5836	27 10 9.8	1.559	1	8 51 31.96	2.3160	22 49 50.2	8.806
2	6 55 42.85	2.5797	27 8 31.0	1.734	2	8 53 50.71	2.3089	22 40 58.3	8.929
3	6 58 17.54	2.5766	27 6 41.6	1.911	3	8 56 9.03	2.3018	22 31 59.5	9.037
4	7 0 52.04	2.5733	27 4 41.7	2.086	4	8 58 26.92	2.2946	22 22 53.8	9.152
5	7 3 26.34	2.5699	27 2 31.3	2.261	5	9 0 44.38	2.2873	22 13 41.3	9.265
6	7 6 0.43	2.5664	27 0 10.4	2.435	6	9 3 1.40	2.2801	22 4 22.0	9.376
7	7 8 34.31	2.5628	26 57 39.1	2.607	7	9 5 17.99	2.2729	21 54 56.2	9.484
8	7 11 7.97	2.5590	26 54 57.5	2.778	8	9 7 34.15	2.2657	21 45 23.9	9.599
9	7 13 41.39	2.5550	26 52 5.7	2.949	9	9 9 49.88	2.2585	21 35 45.1	9.699
10	7 16 14.57	2.5510	26 49 3.6	3.120	10	9 12 5.18	2.2513	21 26 0.0	9.803
11	7 18 47.51	2.5468	26 45 51.3	3.289	11	9 14 20.04	2.2441	21 16 8.7	9.906
12	7 21 20.19	2.5424	26 42 28.9	3.457	12	9 16 34.47	2.2369	21 6 11.3	10.007
13	7 23 52.60	2.5379	26 38 56.4	3.625	13	9 18 48.47	2.2297	20 56 7.8	10.107
14	7 26 24.74	2.5334	26 35 13.9	3.791	14	9 21 2.04	2.2225	20 45 58.4	10.206
15	7 28 56.61	2.5287	26 31 21.5	3.956	15	9 23 15.18	2.2154	20 35 43.1	10.303
16	7 31 28.19	2.5239	26 27 19.2	4.121	16	9 25 27.80	2.2083	20 25 22.0	10.399
17	7 33 59.48	2.5189	26 23 7.0	4.284	17	9 27 40.18	2.2012	20 14 55.2	10.492
18	7 36 30.46	2.5138	26 18 45.1	4.446	18	9 29 52.04	2.1942	20 4 22.9	10.584
19	7 39 1.13	2.5086	26 14 13.5	4.607	19	9 32 3.48	2.1871	19 53 45.1	10.676
20	7 41 31.49	2.5034	26 9 32.3	4.768	20	9 34 14.49	2.1799	19 43 1.8	10.766
21	7 44 1.54	2.4981	26 4 41.6	4.924	21	9 36 25.07	2.1728	19 32 13.2	10.853
22	7 46 31.26	2.4925	25 59 41.4	5.082	22	9 38 35.23	2.1656	19 21 19.4	10.940
23	7 49 0.64	2.4869	25 54 31.8	5.238	23	9 40 44.98	2.1580	19 10 20.4	11.025
24	7 51 29.68	2.4819	N. 25 49 12.9	5.393	24	9 42 54.31	2.1501	N. 18 59 16.4	11.108

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	^h 9 ^m 42 ^s 54.31	2.1501	N. 18° 59' 16.4"	11.108	0	^h 11 ^m 19 ^s 9.58	1.8092	N. 8° 55' 45.1"	13.567
1	9 45 3.23	2.1452	18 48 7.4	11.191	1	11 21 2.30	1.8789	8 42 10.4	13.590
2	9 47 11.74	2.1383	18 36 53.5	11.271	2	11 22 54.97	1.8743	8 28 34.3	13.612
3	9 49 19.83	2.1315	18 25 34.9	11.349	3	11 24 47.31	1.8704	8 14 56.9	13.633
4	9 51 27.52	2.1247	18 14 11.6	11.427	4	11 26 39.42	1.8667	8 1 18.3	13.653
5	9 53 34.80	2.1179	18 2 43.7	11.503	5	11 28 31.31	1.8631	7 47 38.5	13.673
6	9 55 41.67	2.1112	17 51 11.2	11.578	6	11 30 22.99	1.8595	7 33 57.5	13.692
7	9 57 48.14	2.1046	17 39 34.3	11.652	7	11 32 14.45	1.8559	7 20 15.4	13.710
8	9 59 54.22	2.0980	17 27 53.0	11.723	8	11 34 5.70	1.8524	7 6 32.3	13.726
9	10 1 59.90	2.0914	17 16 7.5	11.793	9	11 35 56.74	1.8490	6 52 48.3	13.742
10	10 4 5.19	2.0849	17 4 17.8	11.863	10	11 37 47.58	1.8456	6 39 3.3	13.757
11	10 6 10.09	2.0784	16 52 23.9	11.932	11	11 39 38.23	1.8422	6 25 17.4	13.771
12	10 8 14.60	2.0720	16 40 26.0	11.996	12	11 41 28.69	1.8389	6 11 30.8	13.784
13	10 10 18.73	2.0657	16 28 24.1	12.064	13	11 43 18.96	1.8356	5 57 43.4	13.796
14	10 12 22.48	2.0593	16 16 18.4	12.128	14	11 45 9.05	1.8323	5 43 55.3	13.807
15	10 14 25.85	2.0530	16 4 9.0	12.188	15	11 46 58.96	1.8303	5 30 6.5	13.818
16	10 16 28.84	2.0468	15 51 55.9	12.249	16	11 48 48.69	1.8275	5 16 17.1	13.828
17	10 18 31.47	2.0407	15 39 39.1	12.309	17	11 50 38.26	1.8247	5 2 27.1	13.838
18	10 20 33.73	2.0346	15 27 18.8	12.367	18	11 52 27.66	1.8220	4 48 36.6	13.846
19	10 22 35.62	2.0286	15 14 55.1	12.424	19	11 54 16.90	1.8194	4 34 45.6	13.852
20	10 24 37.16	2.0227	15 2 27.9	12.481	20	11 56 5.99	1.8169	4 20 54.3	13.858
21	10 26 38.34	2.0167	14 49 57.4	12.535	21	11 57 54.93	1.8144	4 7 2.6	13.864
22	10 28 39.16	2.0108	14 37 23.7	12.588	22	11 59 43.72	1.8120	3 53 10.6	13.869
23	10 30 39.64	2.0051	N. 14° 24' 46.8"	12.641	23	12 1 32.37	1.8097	N. 3° 39' 18.3"	13.873
TUESDAY 26.					THURSDAY 28.				
0	10 32 39.77	1.9994	N. 14° 12' 6.8"	12.692	0	12 3 20.88	1.8074	N. 3° 25' 25.8"	13.877
1	10 34 39.56	1.9937	13 59 23.8	12.741	1	12 5 9.26	1.8052	3 11 33.1	13.879
2	10 36 39.01	1.9880	13 46 37.9	12.788	2	12 6 57.51	1.8032	2 57 40.3	13.880
3	10 38 38.12	1.9894	13 33 49.2	12.835	3	12 8 45.64	1.8012	2 43 47.5	13.881
4	10 40 36.90	1.9770	13 20 57.7	12.882	4	12 10 33.65	1.7992	2 29 54.6	13.882
5	10 42 35.36	1.9717	13 8 3.4	12.928	5	12 12 21.55	1.7974	2 16 1.7	13.881
6	10 44 33.50	1.9664	12 55 6.4	12.972	6	12 14 9.34	1.7956	2 2 8.9	13.879
7	10 46 31.32	1.9611	12 42 6.8	13.013	7	12 15 57.02	1.7939	1 48 16.2	13.877
8	10 48 28.83	1.9559	12 29 4.8	13.053	8	12 17 44.61	1.7923	1 34 23.6	13.875
9	10 50 26.03	1.9507	12 16 0.4	13.093	9	12 19 32.10	1.7907	1 20 31.2	13.871
10	10 52 22.92	1.9456	12 2 53.6	13.133	10	12 21 19.50	1.7892	1 6 39.1	13.866
11	10 54 19.50	1.9405	11 49 44.4	13.172	11	12 23 6.81	1.7877	0 52 47.3	13.862
12	10 56 15.78	1.9356	11 36 33.0	13.208	12	12 24 54.03	1.7864	0 38 55.7	13.857
13	10 58 11.77	1.9308	11 23 19.5	13.243	13	12 26 41.18	1.7852	0 25 4.5	13.849
14	11 0 7.48	1.9261	11 10 3.8	13.278	14	12 28 28.26	1.7841	N. 0° 11' 13.8"	13.842
15	11 2 2.90	1.9214	10 56 46.1	13.312	15	12 30 15.27	1.7829	S. 0° 2' 36.5"	13.834
16	11 3 58.04	1.9168	10 43 26.4	13.344	16	12 32 2.21	1.7819	0 16 26.3	13.826
17	11 5 52.91	1.9122	10 30 4.8	13.376	17	12 33 49.10	1.7810	0 30 15.6	13.817
18	11 7 47.50	1.9076	10 16 41.3	13.407	18	12 35 35.93	1.7801	0 44 4.3	13.806
19	11 9 41.82	1.9032	10 3 16.0	13.436	19	12 37 22.71	1.7794	0 57 52.3	13.795
20	11 11 35.88	1.8988	9 49 49.0	13.463	20	12 39 9.45	1.7787	1 11 39.7	13.784
21	11 13 29.68	1.8946	9 36 20.4	13.490	21	12 40 56.15	1.7780	1 25 26.4	13.772
22	11 15 23.23	1.8904	9 22 50.2	13.517	22	12 42 42.81	1.7773	1 39 12.3	13.759
23	11 17 16.53	1.8862	9 9 18.4	13.542	23	12 44 29.43	1.7767	1 52 57.5	13.747
24	11 19 9.58	1.8822	N. 8° 55' 45.1"	13.567	24	12 46 16.02	1.7763	S. 2° 6' 41.9"	13.733

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 29.					SUNDAY 31.				
0	12 46 16.02	1.7763	S. 2° 6' 41.9"	13.733	0	14 12 26.25	1.8416	S. 12° 37' 1.1"	12.975
1	12 48 2.59	1.7761	2 20 25.4	13.718	1	14 14 16.83	1.8446	12 49 16.2	12.998
2	12 49 49.15	1.7758	2 34 8.0	13.702	2	14 16 7.60	1.8477	13 1 28.5	12.161
3	12 51 35.69	1.7756	2 47 49.6	13.685	3	14 17 58.55	1.8508	13 13 37.9	12.130
4	12 53 22.22	1.7755	3 1 30.2	13.668	4	14 19 49.70	1.8541	13 25 44.4	12.093
5	12 55 8.75	1.7754	3 15 9.8	13.651	5	14 21 41.05	1.8574	13 37 47.8	12.059
6	12 56 55.27	1.7754	3 28 48.4	13.634	6	14 23 32.59	1.8607	13 49 48.2	11.999
7	12 58 41.80	1.7755	3 42 25.9	13.615	7	14 25 24.34	1.8642	14 1 45.6	11.931
8	13 0 28.33	1.7757	3 56 2.2	13.595	8	14 27 16.30	1.8678	14 13 39.9	11.878
9	13 2 14.88	1.7760	4 9 37.3	13.575	9	14 29 8.48	1.8714	14 25 31.0	11.825
10	13 4 1.45	1.7763	4 23 11.2	13.554	10	14 31 0.87	1.8750	14 37 18.9	11.771
11	13 5 48.04	1.7767	4 36 43.8	13.533	11	14 32 53.48	1.8787	14 49 3.5	11.717
12	13 7 34.65	1.7771	4 50 15.1	13.511	12	14 34 46.31	1.8824	15 0 44.9	11.663
13	13 9 21.29	1.7777	5 3 45.1	13.488	13	14 36 39.37	1.8863	15 12 22.9	11.605
14	13 11 7.97	1.7783	5 17 13.7	13.465	14	14 38 32.67	1.8902	15 23 57.5	11.548
15	13 12 54.69	1.7790	5 30 40.9	13.441	15	14 40 26.20	1.8942	15 35 28.7	11.491
16	13 14 41.45	1.7797	5 44 6.6	13.416	16	14 42 19.97	1.8983	15 46 56.4	11.432
17	13 16 28.26	1.7805	5 57 30.8	13.391	17	14 44 13.98	1.9023	15 58 20.5	11.373
18	13 18 15.11	1.7813	6 10 53.5	13.365	18	14 46 8.23	1.9063	16 9 41.1	11.319
19	13 20 2.02	1.7824	6 24 14.6	13.338	19	14 48 2.73	1.9105	16 20 58.0	11.261
20	13 21 49.00	1.7835	6 37 34.1	13.311	20	14 49 57.49	1.9147	16 32 11.2	11.199
21	13 23 36.04	1.7846	6 50 51.9	13.283	21	14 51 52.50	1.9190	16 43 20.8	11.138
22	13 25 23.15	1.7858	7 4 8.0	13.254	22	14 53 47.77	1.9234	16 54 26.6	11.064
23	13 27 10.33	1.7870	S. 7 17 22.4	13.225	23	14 55 43.31	1.9278	S. 17 5 28.5	10.999
SATURDAY 30.					MONDAY, AUGUST 1.				
0	13 28 57.59	1.7883	S. 7 30 35.0	13.195	0	14 57 39.11	1.9322	S. 17 16 26.5	10.933
1	13 30 44.93	1.7897	7 43 45.8	13.164					
2	13 32 32.36	1.7912	7 56 54.7	13.133					
3	13 34 19.88	1.7927	8 10 1.8	13.102					
4	13 36 7.49	1.7944	8 23 6.9	13.069					
5	13 37 55.21	1.7962	8 36 10.0	13.036					
6	13 39 43.03	1.7979	8 49 11.2	13.002					
7	13 41 30.96	1.7997	9 2 10.3	12.967					
8	13 43 19.00	1.8016	9 15 7.3	12.932					
9	13 45 7.15	1.8035	9 28 2.1	12.896					
10	13 46 55.42	1.8056	9 40 54.8	12.860					
11	13 48 43.82	1.8077	9 53 45.3	12.822					
12	13 50 32.35	1.8099	10 6 33.5	12.784					
13	13 52 21.01	1.8122	10 19 19.4	12.746					
14	13 54 9.81	1.8145	10 32 3.0	12.707					
15	13 55 58.75	1.8168	10 44 44.2	12.667					
16	13 57 47.83	1.8193	10 57 23.0	12.626					
17	13 59 37.07	1.8219	11 9 59.3	12.584					
18	14 1 26.46	1.8245	11 22 33.1	12.542					
19	14 3 16.01	1.8272	11 35 4.4	12.500					
20	14 5 5.72	1.8299	11 47 33.1	12.456					
21	14 6 55.59	1.8326	11 59 59.1	12.412					
22	14 8 45.63	1.8355	12 12 22.5	12.367					
23	14 10 35.85	1.8385	12 24 43.2	12.322					
24	14 12 26.25	1.8416	S. 12 37 1.1	12.275					

PHASES OF THE MOON.

	d	h	m
☾ First Quarter	July	1	14 13.0
○ Full Moon		9	13 43.5
☾ Last Quarter		16	13 47.6
● New Moon		23	11 30.6
☾ First Quarter		31	7 45.0

	d	h
☾ Apogee	July	3 0.2
☾ Perigee		17 14.5
☾ Apogee		30 18.5

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SUN	W.	83° 30' 23"	3390	84° 52' 51"	3398	86° 15' 10"	3404	87° 37' 22"	3411
	Regulus	W.	35 18 19	3058	36 47 20	3061	38 16 17	3065	39 45 9	3069
	Antares	E.	65 9 49	3023	63 40 5	3030	62 10 30	3036	60 41 2	3043
2	SUN	W.	94 26 47	3434	95 48 25	3437	97 10 0	3439	98 31 32	3441
	Regulus	W.	47 8 30	3082	48 37 2	3084	50 5 31	3085	51 33 59	3087
	SATURN	W.	20 54 30	3095	22 22 46	3096	23 51 1	3096	25 19 15	3097
	Antares	E.	53 15 20	3065	51 46 27	3067	50 17 37	3070	48 48 51	3072
3	SUN	W.	105 18 48	3445	106 40 14	3444	108 1 41	3442	109 23 10	3441
	Regulus	W.	58 56 10	3084	60 24 39	3083	61 53 9	3081	63 21 42	3078
	SATURN	W.	32 40 19	3096	34 8 34	3094	35 36 51	3092	37 5 10	3091
	Antares	E.	41 25 28	3077	39 56 50	3076	38 28 11	3075	36 59 31	3074
	α Aquilæ	E.	91 49 43	3894	90 36 17	3892	89 22 49	3891	88 9 20	3890
4	SUN	W.	116 11 13	3494	117 33 2	3491	118 54 55	3415	120 16 54	3411
	Regulus	W.	70 45 20	3060	72 14 18	3056	73 43 21	3051	75 12 31	3046
	SATURN	W.	44 27 34	3073	45 56 17	3069	47 25 5	3063	48 54 0	3058
	Spica	W.	16 56 50	3165	18 23 41	3144	19 50 57	3126	21 18 35	3110
	α Aquilæ	E.	82 1 56	3896	80 48 32	3898	79 35 10	3901	78 21 51	3906
5	SUN	W.	127 8 23	3379	128 31 3	3372	129 53 52	3365	131 16 49	3358
	Regulus	W.	82 40 10	3013	84 10 7	3005	85 40 13	2997	87 10 29	2989
	SATURN	W.	56 20 21	3026	57 50 2	3018	59 19 53	3010	60 49 53	3002
	Spica	W.	28 41 15	3044	30 10 33	3033	31 40 5	3022	33 9 51	3011
	α Aquilæ	E.	72 16 37	3938	71 3 56	3948	69 51 25	3958	68 39 4	3971
	MARS	E.	86 12 41	2997	84 42 25	2989	83 11 59	2981	81 41 22	2973
	Fomalhaut	E.	100 24 1	3181	98 57 29	3173	97 30 47	3163	96 3 54	3154
6	Regulus	W.	94 44 27	2946	96 15 48	2935	97 47 22	2926	99 19 8	2916
	SATURN	W.	68 22 31	2958	69 53 37	2948	71 24 55	2938	72 56 26	2928
	Spica	W.	40 42 3	2956	42 13 11	2946	43 44 32	2935	45 16 7	2923
	α Aquilæ	E.	62 40 59	4059	61 30 17	4083	60 19 59	4109	59 10 6	4138
	MARS	E.	74 5 30	2925	72 33 43	2916	71 1 44	2905	69 29 31	2894
	Fomalhaut	E.	88 46 44	3109	87 18 45	3100	85 50 35	3091	84 22 14	3081
7	SATURN	W.	80 37 15	2976	82 10 5	2964	83 43 10	2953	85 16 29	2942
	Spica	W.	52 57 41	2966	54 30 44	2954	56 4 2	2943	57 37 34	2931
	α Aquilæ	E.	53 26 44	4340	52 22 28	4394	51 17 1	4454	50 12 28	4519
	MARS	E.	61 45 0	2939	60 11 23	2928	58 37 31	2916	57 3 24	2904
	Fomalhaut	E.	76 57 43	3038	75 28 17	3029	73 58 40	3022	72 28 54	3014
	α Pegasi	E.	97 6 37	3229	95 41 2	3216	94 15 12	3204	92 49 7	3191
8	Spica	W.	65 29 6	2772	67 4 11	2760	68 39 31	2748	70 15 7	2737
	Antares	W.	19 36 56	2796	21 11 29	2779	22 46 25	2763	24 21 41	2748
	MARS	E.	49 8 57	2745	47 33 17	2733	45 57 21	2721	44 21 9	2709
	Fomalhaut	E.	64 57 46	2980	63 27 8	2975	61 56 24	2970	60 25 34	2967
	α Pegasi	E.	85 35 12	3137	84 7 47	3127	82 40 10	3118	81 12 22	3110
9	Spica	W.	78 16 58	2679	79 54 6	2667	81 31 30	2656	83 9 9	2646
	Antares	W.	32 22 39	2683	33 59 42	2670	35 37 2	2658	37 14 38	2646
	MARS	E.	36 16 12	2650	34 38 25	2639	33 0 23	2627	31 22 5	2615

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN	W.	88° 59' 26"	3416	90° 21' 24"	3491	91° 43' 17"	3486	93° 5' 4"	3430
	Regulus	W.	41 13 56	3073	42 42 39	3075	44 11 19	3078	45 39 56	3080
	Antares	E.	59 11 42	3047	57 42 28	3052	56 13 20	3057	54 44 18	3060
2	SUN	W.	99 53 2	3443	101 14 30	3445	102 35 56	3445	103 57 22	3445
	Regulus	W.	53 2 25	3087	54 30 51	3087	55 59 17	3087	57 27 43	3086
	SATURN	W.	26 47 28	3097	28 15 41	3098	29 43 53	3097	31 12 6	3097
	Antares	E.	47 20 7	3073	45 51 25	3075	44 22 45	3076	42 54 6	3077
3	SUN	W.	110 44 40	3438	112 6 13	3436	113 27 49	3432	114 49 29	3439
	Regulus	W.	64 50 18	3076	66 18 57	3073	67 47 40	3069	69 16 28	3065
	SATURN	W.	38 33 31	3067	40 1 56	3085	41 30 24	3081	42 58 57	3078
	Antares	E.	35 30 50	3073	34 2 7	3071	32 33 22	3069	31 4 34	3067
	α Aquilæ	E.	86 55 50	3890	85 42 20	3891	84 28 51	3892	83 15 23	3893
4	SUN	W.	121 38 58	3405	123 1 9	3400	124 23 26	3393	125 45 51	3386
	Regulus	W.	76 41 47	3039	78 11 11	3034	79 40 42	3026	81 10 22	3020
	SATURN	W.	50 23 1	3052	51 52 9	3046	53 21 25	3039	54 50 49	3033
	Spica	W.	22 46 33	3095	24 14 49	3081	25 43 22	3068	27 12 11	3056
	α Aquilæ	E.	77 8 37	3911	75 55 28	3916	74 42 24	3922	73 29 27	3929
5	SUN	W.	132 39 54	3350	134 3 8	3341	135 26 32	3333	136 50 5	3325
	Regulus	W.	88 40 55	2981	90 11 32	2973	91 42 19	2964	93 13 17	2954
	SATURN	W.	62 20 3	2993	63 50 24	2985	65 20 55	2977	66 51 37	2967
	Spica	W.	34 39 50	3000	36 10 3	2989	37 40 29	2978	39 11 9	2967
	α Aquilæ	E.	67 26 56	3985	66 15 2	4001	65 3 23	4018	63 52 1	4038
	MARS	E.	80 10 35	2963	78 39 36	2954	77 8 26	2945	75 37 4	2935
	Fomalhaut	E.	94 36 50	3145	93 9 35	3136	91 42 9	3127	90 14 32	3118
6	Regulus	W.	100 51 7	2905	102 23 19	2896	103 55 43	2885	105 28 21	2875
	SATURN	W.	74 28 9	2918	76 0 5	2907	77 32 15	2897	79 4 38	2886
	Spica	W.	46 47 57	2912	48 20 1	2900	49 52 20	2889	51 24 53	2877
	α Aquilæ	E.	58 0 41	4171	56 51 47	4207	55 43 28	4246	54 35 45	4291
	MARS	E.	67 57 5	2883	66 24 25	2873	64 51 31	2862	63 18 23	2850
	Fomalhaut	E.	82 53 41	3073	81 24 58	3064	79 56 4	3055	78 26 59	3046
7	SATURN	W.	86 50 3	2831	88 23 51	2819	89 57 54	2808	91 32 12	2796
	Spica	W.	59 11 22	2819	60 45 25	2808	62 19 43	2795	63 51 17	2784
	α Aquilæ	E.	49 8 53	4593	48 6 22	4676	47 5 2	4766	46 4 58	4866
	MARS	E.	55 29 1	2792	53 54 23	2781	52 19 30	2769	50 44 21	2757
	Fomalhaut	E.	70 58 58	3006	69 28 53	2999	67 58 39	2992	66 28 16	2986
	α Pegasi	E.	91 22 47	3179	89 56 13	3168	88 29 26	3157	87 2 25	3147
8	Spica	W.	71 50 58	2725	73 27 5	2713	75 3 27	2701	76 40 5	2690
	Antares	W.	25 57 17	2735	27 33 11	2721	29 9 23	2708	30 45 52	2695
	MARS	E.	42 44 41	2697	41 7 57	2686	39 30 58	2674	37 53 43	2662
	Fomalhaut	E.	58 54 40	2964	57 23 42	2961	55 52 40	2950	54 21 37	2940
	α Pegasi	E.	79 44 25	3102	78 16 18	3096	76 48 3	3089	75 19 40	3084
9	Spica	W.	84 47 2	2635	86 25 10	2624	88 3 33	2613	89 42 10	2602
	Antares	W.	38 52 31	2635	40 30 39	2623	42 9 3	2612	43 47 42	2600
	MARS	E.	29 43 31	2605	28 4 43	2593	26 25 39	2583	24 46 20	2572

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
9	Fomalhaut E.	52° 50' 34"	2961	51° 19' 32"	2964	49° 48' 34"	2968	48° 17' 41"	2973
	α Pegasi E.	73 51 11	3079	72 22 36	3076	70 53 57	3073	69 25 14	3071
	JUPITER E.	102 4 44	2704	100 28 10	2699	98 51 20	2692	97 14 16	2670
10	Spica W.	91 21 2	2592	93 0 8	2582	94 39 28	2572	96 19 2	2561
	Antares W.	45 26 37	2590	47 5 46	2579	48 45 10	2569	50 24 48	2558
	Fomalhaut E.	40 46 2	3040	39 16 39	3064	37 47 45	3091	36 19 25	3126
	α Pegasi E.	62 1 36	3080	60 33 2	3087	59 4 36	3095	57 36 20	3105
	JUPITER E.	89 5 8	2616	87 26 35	2605	85 47 47	2596	84 8 46	2585
	α Arietis E.	102 53 46	2661	101 16 14	2650	99 38 27	2639	98 0 25	2628
11	Spica W.	104 40 11	2515	106 21 3	2507	108 2 6	2499	109 43 21	2490
	Antares W.	58 46 27	2510	60 27 26	2501	62 8 38	2492	63 50 2	2483
	α Pegasi E.	50 19 1	3193	48 52 44	3222	47 27 1	3253	46 1 55	3289
	JUPITER E.	75 50 16	2538	74 9 55	2529	72 29 21	2520	70 48 35	2511
	α Arietis E.	89 46 47	2580	88 7 25	2573	86 27 51	2564	84 48 6	2555
12	Antares W.	72 19 59	2444	74 2 31	2436	75 45 14	2429	77 28 7	2422
	JUPITER E.	62 21 51	2471	60 39 57	2464	58 57 53	2456	57 15 38	2450
	α Arietis E.	76 26 40	2520	74 45 55	2514	73 5 1	2508	71 23 59	2503
	Aldebaran E.	106 44 27	2479	105 2 44	2472	103 20 51	2464	101 38 47	2457
13	α Aquilæ W.	47 26 50	2320	48 34 48	2325	49 44 26	2330	50 55 36	2344
	JUPITER E.	48 42 2	2117	46 58 52	2112	45 15 34	2105	43 32 7	2101
	α Arietis E.	62 57 15	2484	61 15 39	2489	59 34 0	2490	57 52 18	2479
	Aldebaran E.	93 6 0	2424	91 23 0	2419	89 39 52	2413	87 56 36	2408
	SUN E.	136 34 12	2726	134 58 7	2718	133 21 51	2711	131 45 26	2704
14	α Aquilæ W.	57 11 0	2609	58 29 25	2558	59 48 45	2511	61 8 57	2468
	MARS W.	31 52 26	2311	33 38 9	2307	35 23 59	2302	37 9 56	2298
	JUPITER E.	34 53 4	2376	33 8 55	2371	31 24 39	2367	29 40 17	2363
	α Arietis E.	49 23 40	2482	47 42 2	2486	46 0 29	2490	44 19 2	2496
	Aldebaran E.	79 18 30	2385	77 34 34	2382	75 50 33	2378	74 6 26	2375
	SUN E.	123 41 11	2675	122 3 57	2669	120 26 35	2663	118 49 6	2659
15	α Aquilæ W.	68 0 52	2300	69 25 4	2273	70 49 47	2250	72 14 57	2229
	MARS W.	46 1 13	2278	47 47 45	2274	49 34 23	2270	51 21 6	2267
	Fomalhaut W.	34 25 5	2905	35 57 18	2853	37 30 37	2809	39 4 53	2769
	Aldebaran E.	65 24 51	2362	63 40 22	2360	61 55 50	2359	60 11 16	2358
	SUN E.	110 40 12	2638	109 2 9	2635	107 24 1	2631	105 45 48	2626
16	α Aquilæ W.	79 26 20	2151	80 53 28	2140	82 20 49	2131	83 48 21	2124
	MARS W.	60 15 50	2252	62 3 0	2250	63 50 13	2248	65 37 29	2245
	Fomalhaut W.	47 7 27	2630	48 45 41	2610	50 24 23	2593	52 3 28	2576
	Aldebaran E.	51 28 15	2358	49 43 40	2359	47 59 7	2361	46 14 36	2364
	SUN E.	97 33 43	2614	95 55 7	2612	94 16 28	2610	92 37 46	2608
17	MARS W.	74 34 37	2237	76 22 10	2225	78 9 45	2224	79 57 22	2223
	Fomalhaut W.	60 23 49	2517	62 4 39	2508	63 45 41	2501	65 26 53	2494
	α Pegasi W.	43 22 1	3136	44 49 27	3084	46 17 56	3037	47 47 23	2994
	Aldebaran E.	37 33 19	2389	35 49 28	2397	34 5 49	2406	32 22 25	2420
	SUN E.	84 23 43	2601	82 44 49	2600	81 5 54	2599	79 26 57	2599

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
9	Fomalhaut E.	46° 46' 55"	2981	45° 16' 19"	2992	42° 45' 56"	3005	42° 15' 49"	3021
	α Pegasi E.	67 56 29	3070	66 27 43	3071	64 58 58	3073	63 30 15	3076
	JUPITER E.	95 36 56	2660	93 59 22	2648	92 21 32	2637	90 43 27	2626
10	Spica W.	97 58 50	2552	99 38 51	2543	101 19 5	2533	102 59 32	2525
	Antares W.	52 4 41	2548	53 44 47	2538	55 25 7	2529	57 5 40	2519
	Fomalhaut E.	34 51 47	3167	33 24 58	3214	31 59 6	3273	30 34 23	3344
	α Pegasi E.	56 8 16	3117	54 40 27	3132	53 12 56	3149	51 45 46	3170
	JUPITER E.	82 29 31	2575	80 50 2	2566	79 10 20	2556	77 30 25	2546
	α Arietis E.	96 22 8	2618	94 43 38	2608	93 4 54	2599	91 25 57	2589
11	Spica W.	111 24 48	2482	113 6 26	2475	114 48 15	2467	116 30 15	2460
	Antares W.	65 31 39	2475	67 13 27	2467	68 55 27	2459	70 37 38	2452
	α Pegasi E.	44 37 31	3332	43 13 56	3380	41 51 17	3438	40 29 41	3500
	JUPITER E.	69 7 37	2502	67 26 27	2494	65 45 6	2487	64 3 34	2479
	α Arietis E.	83 8 9	2548	81 28 2	2540	79 47 44	2533	78 7 17	2526
12	Antares W.	79 11 10	2416	80 54 22	2409	82 37 44	2403	84 21 15	2397
	JUPITER E.	55 33 14	2443	53 50 40	2436	52 7 56	2429	50 25 3	2424
	α Arietis E.	69 42 50	2498	68 1 34	2494	66 20 13	2490	64 38 46	2487
	Aldebaran E.	99 56 33	2450	98 14 9	2443	96 31 35	2436	94 48 52	2430
13	α Aquilæ W.	52 8 11	3665	53 22 6	3792	54 37 16	3796	55 53 36	3665
	JUPITER E.	41 48 33	2396	40 4 52	2390	38 21 3	2385	36 37 7	2380
	α Arietis E.	56 10 35	2478	54 28 51	2477	52 47 6	2478	51 5 22	2480
	Aldebaran E.	86 13 12	2403	84 29 41	2396	82 46 4	2394	81 2 20	2389
	SUN E.	130 8 52	2698	128 32 9	2692	126 55 18	2685	125 18 18	2680
14	α Aquilæ W.	62 29 57	3498	63 51 42	3392	65 14 8	3358	66 37 12	3327
	MARS W.	38 55 59	2994	40 42 8	2989	42 28 24	2985	44 14 46	2981
	JUPITER E.	27 55 49	2359	26 11 16	2355	24 26 37	2352	22 41 53	2348
	α Arietis E.	42 37 43	2503	40 56 34	2519	39 15 38	2523	37 34 57	2538
	Aldebaran E.	72 22 15	2371	70 37 59	2369	68 53 40	2366	67 9 17	2364
	SUN E.	117 11 31	2655	115 33 50	2650	113 56 3	2646	112 18 10	2642
15	α Aquilæ W.	73 40 32	3909	75 6 30	3192	76 32 49	3177	77 59 26	3163
	MARS W.	53 7 54	2964	54 54 46	2961	56 41 43	2958	58 28 44	2955
	Fomalhaut W.	40 40 1	2735	42 15 55	2704	43 52 30	2676	45 29 42	2652
	Aldebaran E.	58 26 41	2357	56 42 5	2357	54 57 28	2357	53 12 51	2357
	SUN E.	104 7 31	2625	102 29 10	2622	100 50 45	2619	99 12 16	2616
16	α Aquilæ W.	85 16 2	3118	86 43 50	3113	88 11 44	3110	89 39 41	3108
	MARS W.	67 24 49	2943	69 12 12	2941	70 59 38	2940	72 47 6	2938
	Fomalhaut W.	53 42 56	2561	55 22 44	2548	57 2 50	2537	58 43 12	2536
	Aldebaran E.	44 30 9	2367	42 45 47	2371	41 1 30	2375	39 17 20	2382
	SUN E.	90 59 2	2606	89 20 15	2604	87 41 26	2603	86 2 35	2602
17	MARS W.	81 45 1	2922	83 32 41	2921	85 20 23	2920	87 8 6	2920
	Fomalhaut W.	67 8 15	2487	68 49 46	2482	70 31 24	2477	72 13 9	2474
	α Pegasi W.	49 17 43	2956	50 48 51	2923	52 20 41	2899	53 53 10	2864
	Aldebaran E.	30 39 19	2435	28 56 34	2453	27 14 15	2475	25 32 27	2502
	SUN E.	77 48 0	2598	76 9 2	2598	74 30 4	2593	72 51 6	2592

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
18	MARS	W.	88° 55' 49"	2230	90° 43' 32"	2239	92° 31' 16"	2239	94° 19' 0"	2239
	Fomalhaut	W.	73 54 59	2470	75 36 54	2467	77 18 54	2465	79 0 56	2464
	α Pegasi	W.	55 26 15	2840	56 59 51	2818	58 33 56	2798	60 8 26	2781
	JUPITER	W.	21 16 43	2304	23 2 36	2304	24 48 29	2304	26 34 22	2305
	SUN	E.	71 12 9	2599	69 33 13	2599	67 54 17	2601	66 15 23	2601
19	Fomalhaut	W.	87 31 22	2465	89 13 25	2466	90 55 26	2469	92 37 23	2472
	α Pegasi	W.	68 5 54	2719	69 42 9	2711	71 18 34	2704	72 55 8	2698
	JUPITER	W.	35 23 29	2311	37 9 13	2313	38 54 54	2315	40 40 32	2317
	α Arietis	W.	24 28 36	2735	26 4 29	2624	27 41 31	2642	29 19 29	2607
	SUN	E.	58 1 24	2612	56 22 46	2615	54 44 11	2618	53 5 41	2622
20	α Pegasi	W.	80 59 18	2688	82 36 14	2629	84 13 9	2621	85 50 1	2623
	JUPITER	W.	49 27 47	2339	51 13 0	2335	52 58 8	2339	54 43 10	2344
	α Arietis	W.	37 38 40	2507	39 19 43	2497	41 1 0	2489	42 42 29	2482
	SUN	E.	44 54 36	2646	43 16 44	2653	41 39 1	2660	40 1 27	2666
21	JUPITER	W.	63 26 35	2371	65 10 52	2376	66 55 1	2382	68 39 1	2389
	α Arietis	W.	51 11 35	2469	52 53 32	2470	54 35 28	2471	56 17 22	2474
	Aldebaran	W.	21 1 30	2632	22 39 41	2601	24 18 34	2577	25 58 0	2559
	SUN	E.	31 56 24	2716	30 20 5	2729	28 44 3	2743	27 8 20	2759
25	SUN	W.	19 21 0	3143	20 48 17	3141	22 15 37	3140	23 42 58	3143
	SATURN	E.	34 38 47	2707	33 2 16	2719	31 26 2	2733	29 50 6	2747
	Spica	E.	61 1 22	2684	59 24 21	2698	57 47 38	2711	56 11 13	2725
26	SUN	W.	30 58 24	3175	32 25 3	3184	33 51 31	3184	35 17 47	3204
	Spica	E.	48 13 35	2792	46 38 57	2805	45 4 36	2819	43 30 33	2833
	Antares	E.	94 4 7	2778	92 29 10	2791	90 54 30	2803	89 20 6	2816
27	SUN	W.	42 26 7	3257	43 51 9	3267	45 15 59	3277	46 40 37	3288
	Regulus	W.	19 7 48	2985	20 38 19	2981	22 8 56	2980	23 39 34	2980
	Spica	E.	35 44 42	2901	34 12 25	2915	32 40 25	2929	31 8 43	2942
	Antares	E.	81 32 6	2676	79 59 16	2687	78 26 40	2698	76 54 18	2699
28	SUN	W.	53 40 45	3338	55 4 13	3347	56 27 30	3356	57 50 37	3365
	Regulus	W.	31 11 56	3001	32 42 7	3007	34 12 11	3013	35 42 8	3019
	Antares	E.	69 15 54	2960	67 44 52	2969	66 14 0	2978	64 43 20	2987
29	SUN	W.	64 43 51	3402	66 6 5	3409	67 28 11	3415	68 50 11	3426
	Regulus	W.	43 10 6	3046	44 39 22	3052	46 8 31	3056	47 37 35	3060
	Antares	E.	57 12 33	3025	55 42 51	3031	54 13 17	3037	52 43 50	3043
30	SUN	W.	75 38 47	3441	77 0 17	3444	78 21 44	3446	79 43 8	3448
	SATURN	W.	26 36 55	3099	28 5 6	3101	29 33 14	3103	31 1 20	3104
	Antares	E.	45 18 10	3085	43 49 17	3068	42 20 28	3071	40 51 43	3073
	α Aquilæ	E.	95 11 17	3290	93 57 47	3290	92 44 17	3290	91 30 47	3290
31	SUN	W.	86 29 50	3450	87 51 10	3448	89 12 32	3446	90 33 56	3445
	SATURN	W.	38 21 37	3105	39 49 41	3103	41 17 47	3101	42 45 55	3099
	Antares	E.	33 28 27	3078	31 59 51	3078	30 31 15	3078	29 2 38	3078
	α Aquilæ	E.	85 23 34	3900	84 10 14	3904	82 56 58	3908	81 43 46	3912

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
18	MARS W.	96° 6' 43"	2230	97° 54' 26"	2231	99° 42' 4"	2232	101° 29' 47"	2233
	Fomalhaut W.	80 43 0	2463	82 25 5	2462	84 7 11	2462	85 49 17	2463
	α Pegasi W.	61 43 19	2766	63 18 32	2751	64 54 4	2739	66 29 52	2729
	JUPITER W.	28 20 14	2306	30 6 5	2307	31 51 55	2308	33 37 43	2309
	SUN E.	64 36 30	2603	62 57 39	2605	61 18 51	2607	59 40 6	2610
19	Fomalhaut W.	94 19 16	2475	96 1 4	2479	97 42 47	2484	99 24 23	2489
	α Pegasi W.	74 31 50	2695	76 8 37	2692	77 45 28	2689	79 22 22	2688
	JUPITER W.	42 26 7	2390	44 11 38	2392	45 57 6	2395	47 42 29	2398
	α Arietis W.	30 58 14	2579	32 37 38	2556	34 17 33	2537	35 57 55	2530
	SUN E.	51 27 16	2696	49 48 57	2630	48 10 43	2635	46 32 36	2640
20	α Pegasi W.	87 26 50	2697	89 3 34	2701	90 40 12	2707	92 16 43	2713
	JUPITER W.	56 28 5	2348	58 12 54	2354	59 57 35	2359	61 42 9	2364
	α Arietis W.	44 24 7	2477	46 5 53	2473	47 47 44	2471	49 29 38	2469
	SUN E.	38 24 2	2675	36 46 49	2684	35 9 47	2693	33 32 58	2704
21	JUPITER W.	70 22 51	2396	72 6 31	2403	73 50 1	2411	75 33 20	2419
	α Arietis W.	57 59 12	2477	59 40 58	2480	61 22 39	2485	63 4 14	2490
	Aldebaran W.	27 37 52	2544	29 18 4	2534	30 58 30	2527	32 39 6	2522
	SUN E.	25 32 58	2777	23 58 0	2797	22 23 28	2821	20 49 27	2848
25	SUN W.	25 10 16	3147	26 37 29	3152	28 4 36	3158	29 31 34	3167
	SATURN E.	28 14 28	2760	26 39 8	2774	25 4 6	2788	23 29 23	2802
	Spica E.	54 35 6	2738	52 59 17	2751	51 23 45	2765	49 48 31	2779
26	SUN W.	36 43 52	3214	38 9 45	3225	39 35 25	3236	41 0 52	3246
	Spica E.	41 56 48	2846	40 23 20	2860	38 50 10	2873	37 17 17	2887
	Antares E.	87 45 59	2998	86 12 8	2940	84 38 32	2852	83 5 11	2864
27	SUN W.	48 5 2	3299	49 29 15	3308	50 53 17	3319	52 17 7	3329
	Regulus W.	25 10 12	2983	26 40 46	2987	28 11 15	2992	29 41 38	2996
	Spica E.	29 37 18	2958	28 6 12	2972	26 35 24	2987	25 4 55	3003
	Antares E.	75 22 11	2990	73 50 17	2931	72 18 37	2940	70 47 9	2950
28	SUN W.	59 13 34	3372	60 36 22	3381	61 59 0	3388	63 21 30	3396
	Regulus W.	37 11 57	3025	38 41 39	3030	40 11 15	3035	41 40 44	3041
	Antares E.	63 12 51	2995	61 42 32	3003	60 12 23	3010	58 42 23	3018
29	SUN W.	70 12 5	3425	71 33 53	3431	72 55 35	3434	74 17 13	3438
	Regulus W.	49 6 34	3064	50 35 28	3068	52 4 17	3070	53 33 3	3073
	Antares E.	51 14 30	3047	49 45 16	3053	48 16 9	3057	46 47 7	3061
30	SUN W.	81 4 30	3449	82 25 51	3450	83 47 11	3451	85 8 30	3450
	SATURN W.	32 29 25	3105	33 57 28	3105	35 25 31	3105	36 53 34	3105
	Antares E.	33 23 0	3075	37 54 20	3076	36 25 41	3078	34 57 4	3078
	α Aquilæ E.	90 17 17	3092	89 3 49	3093	87 50 22	3095	86 36 57	3097
31	SUN W.	91 55 22	3442	93 16 51	3438	94 38 24	3434	96 0 2	3431
	SATURN W.	44 14 6	3096	45 42 20	3093	47 10 38	3090	48 39 0	3086
	Antares E.	27 34 1	3077	26 5 23	3075	24 36 43	3073	23 8 2	3073
	α Aquilæ E.	80 30 38	3017	79 17 35	3022	78 4 38	3026	76 51 47	3034

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.		Subtracted from Apparent Time.		
Mon.	1	^h 8 ^m 48 ^s 18.47	9.691	N. 17° 51' 3.5"	-38.29	15' 48.08"	66.59	^m 6 ^s 4.19	0.165	
Tues.	2	8 52 10.74	9.665	17 35 35.8	39.01	15 48.22	66.50	5 59.91	0.191	
Wed.	3	8 56 2.38	9.639	17 19 50.9	39.72	15 48.36	66.41	5 55.01	0.217	
Thur.	4	8 59 53.40	9.614	17 3 49.2	-40.42	15 48.50	66.32	5 49.50	0.242	
Frid.	5	9 3 43.81	9.589	16 47 31.0	41.09	15 48.64	66.23	5 43.38	0.267	
Sat.	6	9 7 33.62	9.564	16 30 56.6	41.76	15 48.79	66.15	5 36.65	0.292	
SUN.	7	9 11 22.83	9.538	16 14 6.3	-42.41	15 48.94	66.06	5 29.32	0.317	
Mon.	8	9 15 11.45	9.514	15 57 0.4	43.06	15 49.10	65.98	5 21.40	0.341	
Tues.	9	9 18 59.49	9.490	15 39 39.2	43.70	15 49.26	65.89	5 12.91	0.365	
Wed.	10	9 22 46.96	9.467	15 22 3.0	-44.32	15 49.42	65.81	5 3.85	0.388	
Thur.	11	9 26 33.87	9.444	15 4 12.0	44.93	15 49.58	65.73	4 54.24	0.411	
Frid.	12	9 30 20.24	9.421	14 46 6.5	45.53	15 49.75	65.65	4 44.08	0.434	
Sat.	13	9 34 6.07	9.399	14 27 46.8	-46.12	15 49.92	65.57	4 33.38	0.456	
SUN.	14	9 37 51.38	9.377	14 9 13.2	46.69	15 50.09	65.49	4 22.16	0.478	
Mon.	15	9 41 36.17	9.356	13 50 26.0	47.34	15 50.26	65.41	4 10.43	0.499	
Tues.	16	9 45 20.46	9.335	13 31 25.6	-47.79	15 50.44	65.34	3 58.20	0.520	
Wed.	17	9 49 4.25	9.315	13 12 12.1	48.32	15 50.62	65.26	3 45.47	0.540	
Thur.	18	9 52 47.55	9.295	12 52 45.9	48.84	15 50.80	65.19	3 32.25	0.560	
Frid.	19	9 56 30.38	9.275	12 33 7.3	-49.35	15 50.99	65.12	3 18.56	0.580	
Sat.	20	10 0 12.74	9.256	12 13 16.7	49.84	15 51.18	65.05	3 4.40	0.599	
SUN.	21	10 3 54.64	9.237	11 53 14.5	50.32	15 51.38	64.98	2 49.78	0.618	
Mon.	22	10 7 36.09	9.219	11 33 0.9	-50.80	15 51.58	64.92	2 34.71	0.636	
Tues.	23	10 11 17.10	9.200	11 12 36.2	51.25	15 51.79	64.85	2 19.21	0.654	
Wed.	24	10 14 57.68	9.182	10 52 0.8	51.68	15 52.00	64.79	2 3.29	0.672	
Thur.	25	10 18 37.85	9.165	10 31 15.1	-52.10	15 52.21	64.73	1 46.94	0.689	
Frid.	26	10 22 17.61	9.148	10 10 19.4	52.51	15 52.43	64.68	1 30.19	0.706	
Sat.	27	10 25 56.97	9.132	9 49 14.1	52.91	15 52.65	64.62	1 13.04	0.722	
SUN.	28	10 29 35.94	9.116	9 27 59.5	-53.30	15 52.88	64.57	0 55.51	0.738	
Mon.	29	10 33 14.55	9.101	9 6 35.9	53.67	15 53.11	64.52	0 37.62	0.753	
Tues.	30	10 36 52.81	9.087	8 45 3.7	54.02	15 53.34	64.47	0 19.38	0.767	
Wed.	31	10 40 30.73	9.074	8 23 23.2	54.36	15 53.57	64.42	0 0.79	0.780	
Thur.	32	10 44 8.33	9.061	N. 8 1 34.7	-54.68	15 53.81	64.38	0 18.11	0.793	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0'.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
Mon.	1	8 48 17.48	9.691	N. 17° 51' 7.3	-38.29	6 42.0	0.165	8 42 13.28
Tues.	2	8 52 9.76	9.665	17 35 39.6	39.01	5 59.92	0.191	8 46 9.83
Wed.	3	8 56 1.42	9.629	17 19 54.7	39.72	5 55.03	0.217	8 50 6.39
Thur.	4	8 59 52.46	9.614	17 3 53.0	-40.42	5 49.52	0.242	8 54 2.94
Frid.	5	9 3 42.89	9.589	16 47 34.9	41.09	5 43.40	0.267	8 57 59.50
Sat.	6	9 7 32.72	9.564	16 31 0.5	41.76	5 36.67	0.292	9 1 56.05
SUN.	7	9 11 21.95	9.539	16 14 10.2	-42.41	5 29.34	0.317	9 5 52.61
Mon.	8	9 15 10.59	9.515	15 57 4.3	43.06	5 21.43	0.341	9 9 49.16
Tues.	9	9 18 58.66	9.491	15 39 43.1	43.70	5 12.94	0.365	9 13 45.72
Wed.	10	9 22 46.16	9.468	15 22 6.8	-44.32	5 3.88	0.388	9 17 42.28
Thur.	11	9 26 33.10	9.445	15 4 15.7	44.93	4 54.27	0.411	9 21 38.84
Frid.	12	9 30 19.50	9.422	14 46 10.1	45.53	4 44.11	0.434	9 25 35.39
Sat.	13	9 34 5.36	9.400	14 27 50.3	-46.12	4 33.41	0.456	9 29 31.95
SUN.	14	9 37 50.70	9.378	14 9 16.6	46.69	4 22.19	0.478	9 33 28.50
Mon.	15	9 41 35.52	9.357	13 50 29.3	47.24	4 10.46	0.499	9 37 25.06
Tues.	16	9 45 19.84	9.336	13 31 28.7	-47.79	3 58.23	0.520	9 41 21.61
Wed.	17	9 49 3.66	9.316	13 12 15.1	48.33	3 45.50	0.540	9 45 18.17
Thur.	18	9 52 47.00	9.296	12 52 48.8	48.85	3 32.28	0.560	9 49 14.72
Frid.	19	9 56 29.86	9.276	12 33 10.1	-49.36	3 18.59	0.580	9 53 11.28
Sat.	20	10 0 12.26	9.257	12 13 19.3	49.85	3 4.43	0.599	9 57 7.83
SUN.	21	10 3 54.20	9.238	11 53 16.9	50.33	2 49.81	0.618	10 1 4.39
Mon.	22	10 7 35.69	9.220	11 33 3.1	-50.81	2 34.74	0.636	10 5 0.94
Tues.	23	10 11 16.74	9.202	11 12 38.2	51.26	2 19.24	0.654	10 8 57.50
Wed.	24	10 14 57.36	9.184	10 52 2.6	51.69	2 3.31	0.672	10 12 54.05
Thur.	25	10 18 37.57	9.167	10 31 16.7	-52.11	1 46.96	0.689	10 16 50.61
Frid.	26	10 22 17.37	9.150	10 10 20.8	52.52	1 30.21	0.706	10 20 47.16
Sat.	27	10 25 56.78	9.134	9 49 15.2	52.92	1 13.06	0.722	10 24 43.72
SUN.	28	10 29 35.80	9.118	9 28 0.3	-53.31	0 55.53	0.738	10 28 40.27
Mon.	29	10 33 14.45	9.103	9 6 36.4	53.68	0 37.63	0.753	10 32 36.83
Tues.	30	10 36 52.76	9.089	8 45 3.9	54.03	0 19.38	0.767	10 36 33.38
Wed.	31	10 40 30.73	9.076	8 23 23.1	54.37	0 0.79	0.780	10 40 29.94
Thur.	32	10 44 8.38	9.063	N. 8 1 34.3	-54.69	0 18.11	0.793	10 44 26.49

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 hour,
+9.565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	214	129° 38' 3.9"	37° 44.8"	143.58	+ 0.09	0.0063297	-25.8	15 ^h 15 ^m 16.37 ^s
2	215	130 35 29.9	35 10.7	143.60	- 0.04	0.0062669	26.5	15 11 20.46
3	216	131 32 56.7	32 37.4	143.63	0.16	0.0062026	27.1	15 7 24.55
4	217	132 30 24.3	30 4.8	143.66	- 0.26	0.0061369	-27.7	15 3 28.64
5	218	133 27 52.6	27 32.9	143.69	0.33	0.0060698	28.2	14 59 32.73
6	219	134 25 21.8	25 1.9	143.73	0.38	0.0060014	28.7	14 55 36.82
7	220	135 22 52.0	22 32.0	143.78	- 0.41	0.0059319	-29.2	14 51 40.91
8	221	136 20 23.3	20 3.2	143.83	0.40	0.0058613	29.7	14 47 45.00
9	222	137 17 55.7	17 35.4	143.88	0.36	0.0057896	30.2	14 43 49.09
10	223	138 15 29.3	15 8.8	143.93	- 0.29	0.0057167	-30.6	14 39 53.18
11	224	139 13 4.2	12 43.6	143.98	0.20	0.0056426	31.1	14 35 57.27
12	225	140 10 40.6	10 19.9	144.04	- 0.09	0.0055673	31.6	14 32 1.36
13	226	141 8 18.5	7 57.7	144.10	+ 0.03	0.0054908	-32.1	14 28 5.45
14	227	142 5 57.9	5 36.9	144.17	0.16	0.0054130	32.7	14 24 9.54
15	228	143 3 38.8	3 17.6	144.24	0.29	0.0053388	33.3	14 20 13.63
16	229	144 1 21.3	1 0.0	144.31	+ 0.42	0.0052531	-34.0	14 16 17.72
17	230	144 59 5.4	58 44.0	144.37	0.54	0.0051707	34.7	14 12 21.81
18	231	145 56 51.2	56 29.7	144.44	0.63	0.0050864	35.5	14 8 25.90
19	232	146 54 38.6	54 16.9	144.51	+ 0.69	0.0050002	-36.3	14 4 30.00
20	233	147 52 27.6	52 5.8	144.58	0.73	0.0049122	37.1	14 0 34.08
21	234	148 50 18.3	49 56.3	144.64	0.75	0.0048224	37.9	13 56 38.17
22	235	149 48 10.5	47 48.4	144.71	+ 0.73	0.0047305	-38.8	13 52 42.26
23	236	150 46 4.2	45 42.0	144.77	0.68	0.0046364	39.6	13 48 46.36
24	237	151 43 59.4	43 37.0	144.83	0.60	0.0045403	40.4	13 44 50.45
25	238	152 41 56.0	41 33.5	144.89	+ 0.50	0.0044423	-41.2	13 40 54.54
26	239	153 39 54.0	39 31.4	144.94	0.38	0.0043426	41.9	13 36 58.63
27	240	154 37 53.4	37 30.6	145.00	0.26	0.0042411	42.6	13 33 2.72
28	241	155 35 54.2	35 31.3	145.06	+ 0.13	0.0041380	-43.3	13 29 6.81
29	242	156 33 56.3	33 33.3	145.12	0.00	0.0040334	43.9	13 25 10.90
30	243	157 31 59.8	31 36.7	145.18	- 0.12	0.0039275	44.4	13 21 14.99
31	244	158 30 4.8	29 41.6	145.24	0.23	0.0038204	44.8	13 17 19.09
32	245	159 28 11.2	27 47.9	145.29	- 0.32	0.0037124	-45.2	13 13 23.18

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' , to the mean equinox of January 1st.

Diff. for 1 Hour,
— 9^h.8296.
(Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	14' 50.9	14' 53.0	54' 23.0	+0.52	54' 30.5	+0.73	6 26.9	1.86	8.5
2	14 55.7	14 59.0	54 40.5	0.93	54 52.8	1.12	7 13.0	1.99	9.5
3	15 3.0	15 7.5	55 7.3	1.29	55 23.7	1.44	8 2.7	2.15	10.5
4	15 12.4	15 17.7	55 41.8	+1.57	56 1.3	+1.67	8 55.9	2.28	11.5
5	15 23.3	15 29.1	56 21.9	1.75	56 43.1	1.79	9 51.7	2.36	12.5
6	15 35.0	15 40.8	57 4.7	1.80	57 26.1	1.77	10 48.6	2.37	13.5
7	15 46.5	15 51.9	57 47.1	+1.71	58 7.0	+1.61	11 44.9	2.30	14.5
8	15 57.0	16 1.6	58 25.7	1.49	58 42.7	1.34	12 39.1	2.21	15.5
9	16 5.7	16 9.2	58 57.7	1.16	59 10.5	0.97	13 31.1	2.12	16.5
10	16 12.0	16 14.2	59 20.9	+0.78	59 29.0	+0.57	14 21.0	2.05	17.5
11	16 15.7	16 16.6	59 34.5	+0.36	59 37.6	+0.17	15 9.9	2.03	18.5
12	16 16.8	16 16.5	59 38.4	-0.03	59 37.1	-0.20	15 58.9	2.06	19.5
13	16 15.6	16 14.2	59 33.8	-0.35	59 28.8	-0.48	16 49.3	2.15	20.5
14	16 12.4	16 10.3	59 22.4	0.60	59 14.5	0.70	17 42.1	2.26	21.5
15	16 7.9	16 5.2	59 5.6	0.79	58 55.7	0.86	18 37.9	2.38	22.5
16	16 2.3	15 59.2	58 45.0	-0.92	58 33.6	-0.99	19 36.4	2.47	23.5
17	15 55.9	15 52.4	58 21.5	1.04	58 8.8	1.08	20 36.2	2.49	24.5
18	15 48.8	15 45.1	57 55.6	1.13	57 41.9	1.16	21 35.1	2.41	25.5
19	15 41.2	15 37.3	57 27.8	-1.20	57 13.2	-1.23	22 31.3	2.27	26.5
20	15 33.2	15 29.1	56 58.3	1.26	56 43.1	1.28	23 23.6	2.10	27.5
21	15 24.9	15 20.7	56 27.7	1.29	56 12.3	1.29	6		28.5
22	15 16.5	15 12.4	55 57.0	-1.27	55 41.9	-1.24	0 11.8	1.93	0.0
23	15 8.4	15 4.6	55 27.3	1.20	55 13.3	1.13	0 56.4	1.80	1.0
24	15 1.1	14 57.8	55 0.2	1.05	54 48.2	0.95	1 38.4	1.71	2.0
25	14 54.9	14 52.3	54 37.4	-0.84	54 28.1	-0.71	2 18.8	1.67	3.0
26	14 50.3	14 48.7	54 20.5	0.56	54 14.8	0.39	2 58.7	1.67	4.0
27	14 47.7	14 47.3	54 11.2	-0.21	54 9.8	-0.03	3 39.2	1.72	5.0
28	14 47.6	14 48.5	54 10.7	+0.18	54 14.0	+0.39	4 21.3	1.80	6.0
29	14 50.1	14 52.4	54 19.9	0.60	54 28.3	0.81	5 5.8	1.91	7.0
30	14 55.3	14 59.0	54 39.2	1.02	54 52.7	1.23	5 53.4	2.05	8.0
31	15 3.3	15 8.3	55 8.6	1.42	55 26.8	1.61	6 44.4	2.19	9.0
32	15 13.8	15 19.9	55 47.1	+1.78	56 9.3	+1.91	7 38.3	2.29	10.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 1.					WEDNESDAY 3.				
0	14 57 39.11	1.9322	S. 17° 16' 26.5"	10.933	0	16 36 20.62	2.1904	S. 24° 26' 37.2"	6.692
1	14 59 35.18	1.9367	17 27 20.5	10.868	1	16 38 32.22	2.1969	24 35 15.4	6.579
2	15 1 31.52	1.9413	17 38 10.6	10.803	2	16 40 44.16	2.2019	24 41 46.7	6.464
3	15 3 28.14	1.9460	17 48 56.7	10.734	3	16 42 56.45	2.2076	24 48 11.1	6.348
4	15 5 25.04	1.9507	17 59 38.7	10.665	4	16 45 9.08	2.2139	24 54 28.5	6.232
5	15 7 22.22	1.9554	18 10 16.5	10.595	5	16 47 22.04	2.2189	25 0 38.9	6.114
6	15 9 19.68	1.9601	18 20 50.1	10.525	6	16 49 35.35	2.2246	25 6 42.2	5.995
7	15 11 17.43	1.9649	18 31 19.5	10.454	7	16 51 49.00	2.2303	25 12 38.3	5.875
8	15 13 15.47	1.9696	18 41 44.6	10.382	8	16 54 2.98	2.2358	25 18 27.2	5.756
9	15 15 13.81	1.9747	18 52 5.3	10.308	9	16 56 17.30	2.2414	25 24 8.9	5.633
10	15 17 12.44	1.9797	19 2 21.6	10.234	10	16 58 31.95	2.2469	25 29 43.2	5.510
11	15 19 11.37	1.9847	19 12 33.4	10.159	11	17 0 46.93	2.2525	25 35 10.1	5.385
12	15 21 10.60	1.9897	19 22 40.7	10.083	12	17 3 2.25	2.2580	25 40 20.5	5.260
13	15 23 10.14	1.9948	19 32 43.4	10.007	13	17 5 17.89	2.2634	25 45 41.3	5.134
14	15 25 9.98	1.9999	19 42 41.5	9.929	14	17 7 33.86	2.2688	25 50 45.6	5.007
15	15 27 10.13	2.0051	19 52 34.9	9.850	15	17 9 50.15	2.2741	25 55 42.2	4.879
16	15 29 10.60	2.0104	20 2 23.5	9.771	16	17 12 6.76	2.2794	26 0 31.1	4.750
17	15 31 11.38	2.0156	20 12 7.4	9.691	17	17 14 23.68	2.2847	26 5 12.2	4.620
18	15 33 12.47	2.0208	20 21 46.4	9.609	18	17 16 40.92	2.2899	26 9 45.5	4.489
19	15 35 13.88	2.0260	20 31 20.5	9.527	19	17 18 58.47	2.2951	26 14 10.9	4.357
20	15 37 15.61	2.0316	20 40 49.6	9.443	20	17 21 16.33	2.3003	26 18 28.3	4.223
21	15 39 17.67	2.0370	20 50 13.6	9.358	21	17 23 34.50	2.3053	26 22 37.7	4.089
22	15 41 20.05	2.0424	20 59 32.5	9.273	22	17 25 52.97	2.3103	26 26 39.0	3.954
23	15 43 22.76	2.0479	S. 21° 8' 46.3"	9.187	23	17 28 11.73	2.3159	S. 26° 30' 32.2"	3.818
TUESDAY 2.					THURSDAY 4.				
0	15 45 25.80	2.0534	S. 21° 17' 54.9"	9.099	0	17 30 30.79	2.3201	S. 26° 34' 17.2"	3.681
1	15 47 29.17	2.0589	21 26 58.2	9.011	1	17 32 50.14	2.3249	26 37 53.9	3.543
2	15 49 32.87	2.0644	21 35 56.2	8.922	2	17 35 9.78	2.3297	26 41 22.4	3.405
3	15 51 36.90	2.0700	21 44 48.8	8.831	3	17 37 29.70	2.3343	26 44 42.5	3.264
4	15 53 41.27	2.0756	21 53 35.9	8.739	4	17 39 49.90	2.3390	26 47 54.1	3.123
5	15 55 45.98	2.0819	22 2 17.5	8.647	5	17 42 10.38	2.3436	26 50 57.3	2.982
6	15 57 51.02	2.0888	22 10 53.6	8.554	6	17 44 31.13	2.3480	26 53 52.0	2.840
7	15 59 56.40	2.0925	22 19 24.0	8.459	7	17 46 52.14	2.3524	26 56 38.1	2.697
8	16 2 2.12	2.0982	22 27 48.7	8.363	8	17 49 13.42	2.3567	26 59 15.6	2.552
9	16 4 8.19	2.1040	22 36 7.6	8.267	9	17 51 34.95	2.3609	27 1 44.4	2.407
10	16 6 14.60	2.1097	22 44 20.7	8.169	10	17 53 56.73	2.3651	27 4 4.4	2.261
11	16 8 21.35	2.1154	22 52 27.9	8.071	11	17 56 18.76	2.3693	27 6 15.7	2.115
12	16 10 28.45	2.1219	23 0 29.2	7.972	12	17 58 41.04	2.3739	27 8 18.2	1.967
13	16 12 35.80	2.1289	23 8 24.5	7.871	13	18 1 3.55	2.3771	27 10 11.8	1.819
14	16 14 43.68	2.1337	23 16 13.7	7.768	14	18 3 26.29	2.3808	27 11 56.5	1.670
15	16 16 51.81	2.1384	23 23 56.7	7.665	15	18 5 49.25	2.3845	27 13 32.2	1.520
16	16 19 0.29	2.1442	23 31 33.5	7.562	16	18 8 12.43	2.3882	27 14 58.0	1.370
17	16 21 9.12	2.1500	23 39 4.1	7.457	17	18 10 35.83	2.3918	27 16 16.6	1.219
18	16 23 18.29	2.1558	23 46 28.3	7.350	18	18 12 59.45	2.3953	27 17 25.2	1.067
19	16 25 27.81	2.1616	23 53 46.1	7.243	19	18 15 23.27	2.3986	27 18 24.6	0.914
20	16 27 37.68	2.1674	24 0 57.5	7.136	20	18 17 47.28	2.4018	27 19 14.9	0.761
21	16 29 47.90	2.1732	24 8 2.4	7.027	21	18 20 11.48	2.4049	27 19 56.0	0.607
22	16 31 58.46	2.1789	24 15 0.7	6.916	22	18 22 35.87	2.4080	27 20 27.8	0.453
23	16 34 9.37	2.1847	24 21 52.3	6.804	23	18 25 0.44	2.4109	27 20 50.4	0.299
24	16 36 20.62	2.1904	S. 24° 28' 37.2"	6.692	24	18 27 25.18	2.4137	S. 27° 21' 3.7"	0.143

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 5.					SUNDAY 7.				
0	18 27 25.18	2.4137	8.27° 21' 3.7"	- 0.143	0	20 24 25.50	2.4106	8.24° 23' 55.1"	7.485
1	18 29 50.09	2.4165	27 21 7.6	+ 0.013	1	20 26 50.60	2.4179	24 16 20.8	7.647
2	18 32 15.16	2.4191	27 21 2.1	0.170	2	20 29 15.56	2.4147	24 8 37.4	7.798
3	18 34 40.38	2.4216	27 20 47.2	0.327	3	20 31 40.37	2.4199	24 0 45.0	7.946
4	18 37 5.75	2.4240	27 20 22.8	0.485	4	20 34 5.02	2.4096	23 52 43.6	8.098
5	18 39 31.26	2.4263	27 19 49.0	0.643	5	20 36 29.52	2.4070	23 44 33.2	8.247
6	18 41 56.91	2.4286	27 19 5.7	0.801	6	20 38 53.86	2.4049	23 36 13.9	8.395
7	18 44 22.69	2.4306	27 18 12.9	0.960	7	20 41 18.03	2.4014	23 27 45.8	8.549
8	18 46 48.58	2.4324	27 17 10.5	1.119	8	20 43 42.03	2.3966	23 19 8.9	8.698
9	18 49 14.58	2.4343	27 15 58.6	1.278	9	20 46 5.86	2.3967	23 10 23.2	8.834
10	18 51 40.69	2.4361	27 14 37.1	1.436	10	20 48 29.51	2.3996	23 1 28.8	8.978
11	18 54 6.91	2.4377	27 13 6.0	1.599	11	20 50 52.97	2.3966	22 52 25.8	9.121
12	18 56 33.22	2.4399	27 11 25.2	1.760	12	20 53 16.25	2.3964	22 43 14.3	9.263
13	18 58 59.61	2.4406	27 9 34.8	1.920	13	20 55 39.34	2.3933	22 33 54.3	9.404
14	19 1 26.09	2.4419	27 7 34.8	2.081	14	20 58 2.24	2.3901	22 24 25.8	9.546
15	19 3 52.64	2.4430	27 5 25.1	2.249	15	21 0 24.95	2.3768	22 14 48.8	9.686
16	19 6 19.25	2.4440	27 3 5.7	2.403	16	21 2 47.46	2.3734	22 5 3.5	9.823
17	19 8 45.92	2.4450	27 0 36.7	2.564	17	21 5 9.76	2.3700	21 55 10.0	9.960
18	19 11 12.65	2.4458	26 57 58.0	2.726	18	21 7 31.86	2.3666	21 45 8.3	10.097
19	19 13 39.42	2.4465	26 55 9.6	2.888	19	21 9 53.75	2.3632	21 34 58.4	10.233
20	19 16 6.23	2.4471	26 52 11.4	3.051	20	21 12 15.44	2.3597	21 24 40.4	10.367
21	19 18 33.07	2.4478	26 49 3.5	3.219	21	21 14 36.92	2.3569	21 14 14.4	10.499
22	19 20 59.94	2.4479	26 45 45.9	3.374	22	21 16 58.18	2.3536	21 3 40.5	10.630
23	19 23 26.82	2.4481	8.26 42 18.6	3.535	23	21 19 19.23	2.3491	8.20 52 58.8	10.760
SATURDAY 6.					MONDAY 8.				
0	19 25 53.71	2.4489	8.26 38 41.7	3.697	0	21 21 40.07	2.3456	8.20 42 9.3	10.890
1	19 28 20.61	2.4483	26 34 55.0	3.859	1	21 24 0.69	2.3418	20 31 12.0	11.016
2	19 30 47.51	2.4489	26 30 58.6	4.021	2	21 26 21.09	2.3381	20 20 7.1	11.145
3	19 33 14.39	2.4479	26 26 52.5	4.188	3	21 28 41.26	2.3344	20 8 54.6	11.272
4	19 35 41.25	2.4476	26 22 36.7	4.343	4	21 31 1.21	2.3307	19 57 34.5	11.396
5	19 38 8.10	2.4479	26 18 11.3	4.504	5	21 33 20.94	2.3270	19 46 7.1	11.518
6	19 40 34.92	2.4467	26 13 36.2	4.665	6	21 35 40.45	2.3232	19 34 32.4	11.639
7	19 43 1.70	2.4460	26 8 51.5	4.826	7	21 37 59.73	2.3195	19 22 50.4	11.761
8	19 45 28.44	2.4459	26 3 57.1	4.987	8	21 40 18.79	2.3157	19 11 1.1	11.881
9	19 47 55.13	2.4443	25 58 53.1	5.147	9	21 42 37.62	2.3119	18 59 4.7	11.996
10	19 50 21.76	2.4433	25 53 39.5	5.307	10	21 44 56.22	2.3081	18 47 1.3	12.115
11	19 52 48.33	2.4423	25 48 16.3	5.467	11	21 47 14.59	2.3044	18 34 50.9	12.230
12	19 55 14.84	2.4419	25 42 43.5	5.626	12	21 49 32.74	2.3006	18 22 33.7	12.344
13	19 57 41.27	2.4399	25 37 1.2	5.784	13	21 51 50.66	2.2968	18 10 9.7	12.457
14	20 0 7.62	2.4386	25 31 9.4	5.942	14	21 54 8.35	2.2930	17 57 38.9	12.568
15	20 2 33.89	2.4371	25 25 8.1	6.100	15	21 56 25.82	2.2892	17 45 1.5	12.677
16	20 5 0.07	2.4355	25 18 57.4	6.257	16	21 58 43.06	2.2854	17 32 17.6	12.780
17	20 7 26.15	2.4337	25 12 37.3	6.414	17	22 1 0.07	2.2817	17 19 27.2	12.882
18	20 9 52.12	2.4319	25 6 7.7	6.571	18	22 3 16.86	2.2779	17 6 30.5	12.997
19	20 12 17.98	2.4301	24 59 28.7	6.727	19	22 5 33.42	2.2742	16 53 27.5	13.109
20	20 14 43.73	2.4289	24 52 40.5	6.881	20	22 7 49.76	2.2705	16 40 18.3	13.205
21	20 17 9.37	2.4269	24 45 43.0	7.036	21	22 10 5.88	2.2668	16 27 2.9	13.307
22	20 19 34.88	2.4241	24 38 36.2	7.190	22	22 12 21.78	2.2631	16 13 41.5	13.406
23	20 22 0.26	2.4218	24 31 20.2	7.343	23	22 14 37.45	2.2594	16 0 14.2	13.504
24	20 24 25.50	2.4195	8.24 23 55.1	7.495	24	22 16 52.90	2.2557	8.15 46 41.0	13.601

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 9.					THURSDAY 11.				
0	^h 22 ^m 16 ^s 52.90	2.2557	S. 15° 46' 41.0	13.601	0	^h 0 ^m 1 ^s 43.73	2.1347	S. 3° 31' 35.7	16.422
1	22 19 8.13	2.2591	15 33 2.1	13.606	1	0 3 51.78	2.1337	3 15 9.7	16.442
2	22 21 23.15	2.2485	15 19 17.5	13.790	2	0 5 59.77	2.1337	2 58 42.6	16.461
3	22 23 37.95	2.2449	15 5 27.3	13.689	3	0 8 7.71	2.1319	2 42 14.4	16.478
4	22 25 52.54	2.2413	14 51 31.6	13.973	4	0 10 15.60	2.1313	2 25 45.2	16.493
5	22 28 6.91	2.2378	14 37 30.5	14.082	5	0 12 23.46	2.1307	2 9 15.2	16.507
6	22 30 21.07	2.2343	14 23 24.1	14.150	6	0 14 31.28	2.1301	1 52 44.4	16.519
7	22 32 35.03	2.2309	14 9 12.5	14.237	7	0 16 39.07	2.1296	1 36 12.9	16.529
8	22 34 48.78	2.2274	13 54 55.7	14.399	8	0 18 46.83	2.1292	1 19 40.9	16.537
9	22 37 2.32	2.2240	13 40 33.9	14.404	9	0 20 54.57	2.1288	1 3 8.4	16.545
10	22 39 15.66	2.2207	13 26 7.2	14.486	10	0 23 2.29	2.1286	0 46 35.5	16.551
11	22 41 28.81	2.2175	13 11 35.6	14.566	11	0 25 10.00	2.1285	0 30 2.3	16.556
12	22 43 41.76	2.2142	12 56 59.3	14.644	12	0 27 17.71	2.1284	S. 0 13 28.8	16.558
13	22 45 54.52	2.2110	12 42 18.3	14.799	13	0 29 25.41	2.1283	N. 0 3 4.7	16.558
14	22 48 7.08	2.2078	12 27 32.7	14.798	14	0 31 33.11	2.1284	0 19 38.2	16.558
15	22 50 19.45	2.2047	12 12 42.6	14.672	15	0 33 40.82	2.1286	0 36 11.7	16.557
16	22 52 31.64	2.2016	11 57 48.1	14.943	16	0 35 48.54	2.1288	0 52 45.0	16.553
17	22 54 43.64	2.1985	11 42 49.4	15.013	17	0 37 56.28	2.1291	1 9 18.0	16.547
18	22 56 55.46	2.1956	11 27 46.5	15.089	18	0 40 4.04	2.1295	1 25 50.6	16.539
19	22 59 7.11	2.1927	11 12 39.5	15.151	19	0 42 11.82	2.1300	1 42 22.7	16.531
20	23 1 18.58	2.1898	10 57 28.4	15.218	20	0 44 19.64	2.1306	1 58 54.3	16.529
21	23 3 29.88	2.1870	10 42 13.4	15.289	21	0 46 27.49	2.1312	2 15 25.3	16.510
22	23 5 41.02	2.1842	10 26 54.6	15.344	22	0 48 35.38	2.1319	2 31 55.5	16.497
23	23 7 51.99	2.1815	S. 10° 11' 32.1	15.406	23	0 50 43.32	2.1327	N. 2 48 24.9	16.488
WEDNESDAY 10.					FRIDAY 12.				
0	23 10 2.80	2.1788	S. 9° 56' 5.9	15.466	0	0 52 51.31	2.1336	N. 3 4 53.4	16.466
1	23 12 13.45	2.1769	9 40 36.2	15.594	1	0 54 59.35	2.1346	3 21 20.8	16.448
2	23 14 23.95	2.1737	9 25 3.0	15.581	2	0 57 7.46	2.1357	3 37 47.1	16.426
3	23 16 34.30	2.1719	9 9 26.5	15.635	3	0 59 15.63	2.1368	3 54 12.2	16.407
4	23 18 44.50	2.1688	8 53 46.8	15.688	4	1 1 23.87	2.1379	4 10 36.0	16.385
5	23 20 54.56	2.1664	8 38 3.9	15.741	5	1 3 32.18	2.1392	4 26 58.4	16.361
6	23 23 4.47	2.1641	8 22 17.9	15.791	6	1 5 40.57	2.1405	4 43 19.3	16.335
7	23 25 14.25	2.1618	8 6 29.0	15.839	7	1 7 49.04	2.1420	4 59 38.6	16.307
8	23 27 23.90	2.1597	7 50 37.2	15.887	8	1 9 57.61	2.1436	5 15 56.2	16.279
9	23 29 33.42	2.1577	7 34 42.6	15.933	9	1 12 6.27	2.1452	5 32 12.1	16.249
10	23 31 42.82	2.1557	7 18 45.3	15.977	10	1 14 15.03	2.1468	5 48 26.1	16.217
11	23 33 52.10	2.1537	7 2 45.4	16.018	11	1 16 23.89	2.1485	6 4 38.1	16.183
12	23 36 1.26	2.1517	6 46 43.1	16.058	12	1 18 32.85	2.1503	6 20 48.1	16.148
13	23 38 10.31	2.1499	6 30 38.4	16.098	13	1 20 41.93	2.1523	6 36 55.9	16.113
14	23 40 19.25	2.1482	6 14 31.3	16.136	14	1 22 51.13	2.1543	6 53 1.5	16.074
15	23 42 28.09	2.1465	5 58 22.1	16.171	15	1 25 0.45	2.1563	7 9 4.8	16.034
16	23 44 36.83	2.1449	5 42 10.8	16.206	16	1 27 9.89	2.1585	7 25 5.6	15.992
17	23 46 45.48	2.1434	5 25 57.4	16.239	17	1 29 19.47	2.1607	7 41 3.9	15.950
18	23 48 54.04	2.1419	5 9 42.1	16.270	18	1 31 29.18	2.1630	7 56 59.6	15.906
19	23 51 2.51	2.1405	4 53 25.0	16.299	19	1 33 39.03	2.1654	8 12 52.6	15.860
20	23 53 10.90	2.1392	4 37 6.2	16.327	20	1 35 49.03	2.1679	8 28 42.8	15.813
21	23 55 19.21	2.1379	4 20 45.8	16.353	21	1 37 59.18	2.1704	8 44 30.1	15.763
22	23 57 27.45	2.1367	4 4 23.8	16.378	22	1 40 9.48	2.1730	9 0 14.4	15.719
23	23 59 35.62	2.1357	3 48 0.4	16.401	23	1 42 19.94	2.1757	9 15 55.6	15.681
24	0 1 43.73	2.1347	S. 3° 31' 35.7	16.422	24	1 44 30.56	2.1784	N. 9 31 33.7	15.637

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 13.					MONDAY 15.				
0	1 44 30.56	2.1784	N. 9° 31' 33.7"	15.007	0	3 33 22.26	2.3740	N. 20° 29' 57.5"	11.251
1	1 46 41.35	2.1812	9 47 8.5	15.559	1	3 35 44.84	2.3788	20 41 8.8	11.124
2	1 48 52.31	2.1841	10 2 39.9	15.495	2	3 38 7.71	2.3836	20 52 12.4	10.996
3	1 51 3.44	2.1870	10 18 7.9	15.437	3	3 40 30.87	2.3883	21 3 8.3	10.867
4	1 53 14.75	2.1901	10 33 32.4	15.377	4	3 42 54.31	2.3931	21 13 56.4	10.738
5	1 55 26.25	2.1939	10 48 53.2	15.316	5	3 45 18.04	2.3978	21 24 36.6	10.604
6	1 57 37.94	2.1964	11 4 10.3	15.253	6	3 47 42.05	2.4025	21 35 8.9	10.471
7	1 59 49.82	2.1996	11 19 23.6	15.189	7	3 50 6.34	2.4072	21 45 33.1	10.336
8	2 2 1.89	2.2028	11 34 33.0	15.122	8	3 52 30.91	2.4119	21 55 49.2	10.200
9	2 4 14.16	2.2062	11 49 38.3	15.054	9	3 54 55.77	2.4166	22 5 57.1	10.062
10	2 6 26.64	2.2096	12 4 39.5	14.986	10	3 57 20.91	2.4212	22 15 56.7	9.924
11	2 8 39.32	2.2131	12 19 36.6	14.917	11	3 59 46.32	2.4257	22 25 48.0	9.785
12	2 10 52.21	2.2167	12 34 29.5	14.845	12	4 2 12.00	2.4303	22 35 30.9	9.644
13	2 13 5.32	2.2203	12 49 18.0	14.771	13	4 4 37.96	2.4349	22 45 5.3	9.502
14	2 15 18.65	2.2239	13 4 2.0	14.695	14	4 7 4.19	2.4393	22 54 31.1	9.358
15	2 17 32.19	2.2276	13 18 41.4	14.618	15	4 9 30.68	2.4437	23 3 48.2	9.213
16	2 19 45.96	2.2315	13 33 16.2	14.541	16	4 11 57.44	2.4482	23 12 56.6	9.067
17	2 21 59.97	2.2354	13 47 46.3	14.461	17	4 14 24.46	2.4526	23 21 56.2	8.920
18	2 24 14.21	2.2393	14 2 11.5	14.379	18	4 16 51.75	2.4570	23 30 47.0	8.772
19	2 26 28.68	2.2433	14 16 31.8	14.297	19	4 19 19.30	2.4613	23 39 28.9	8.623
20	2 28 43.39	2.2472	14 30 47.1	14.213	20	4 21 47.10	2.4653	23 48 1.8	8.472
21	2 30 58.34	2.2513	14 44 57.3	14.127	21	4 24 15.14	2.4694	23 56 25.5	8.319
22	2 33 13.54	2.2554	14 59 2.3	14.039	22	4 26 43.43	2.4736	24 4 40.1	8.167
23	2 35 28.99	2.2595	N. 15° 13' 2.0"	13.951	23	4 29 11.97	2.4777	N. 24° 12' 45.6"	8.014
SUNDAY 14.					TUESDAY 16.				
0	2 37 44.68	2.2637	N. 15° 26' 56.4"	13.861	0	4 31 40.75	2.4816	N. 24° 20' 41.8"	7.859
1	2 40 0.63	2.2680	15 40 45.3	13.769	1	4 34 9.76	2.4855	24 28 28.7	7.703
2	2 42 16.84	2.2723	15 54 28.7	13.676	2	4 36 39.01	2.4894	24 36 6.2	7.547
3	2 44 33.30	2.2766	16 8 6.4	13.581	3	4 39 8.49	2.4932	24 43 34.3	7.389
4	2 46 50.03	2.2810	16 21 38.4	13.484	4	4 41 38.19	2.4968	24 50 52.9	7.230
5	2 49 7.02	2.2853	16 35 4.5	13.386	5	4 44 8.10	2.5004	24 58 1.9	7.069
6	2 51 24.27	2.2897	16 48 24.7	13.287	6	4 46 38.23	2.5039	25 5 1.2	6.908
7	2 53 41.79	2.2942	17 1 38.9	13.186	7	4 49 8.57	2.5073	25 11 50.9	6.747
8	2 55 59.58	2.2988	17 14 47.0	13.084	8	4 51 39.11	2.5106	25 18 30.9	6.585
9	2 58 17.65	2.3034	17 27 49.0	12.981	9	4 54 9.84	2.5138	25 25 1.1	6.422
10	3 0 35.99	2.3080	17 40 44.7	12.876	10	4 56 40.77	2.5171	25 31 21.5	6.258
11	3 2 54.61	2.3126	17 53 34.1	12.769	11	4 59 11.89	2.5202	25 37 32.0	6.093
12	3 5 13.50	2.3172	18 6 17.0	12.661	12	5 1 43.19	2.5231	25 43 32.7	5.928
13	3 7 32.67	2.3219	18 18 53.4	12.552	13	5 4 14.66	2.5259	25 49 23.4	5.761
14	3 9 52.12	2.3266	18 31 23.2	12.440	14	5 6 46.30	2.5287	25 55 4.0	5.594
15	3 12 11.86	2.3313	18 43 46.2	12.327	15	5 9 18.11	2.5314	26 0 34.6	5.426
16	3 14 31.88	2.3360	18 56 2.4	12.213	16	5 11 50.07	2.5339	26 5 55.1	5.257
17	3 16 52.18	2.3407	19 8 11.8	12.098	17	5 14 22.18	2.5363	26 11 5.5	5.088
18	3 19 12.76	2.3454	19 20 14.2	11.981	18	5 16 54.43	2.5387	26 16 5.7	4.918
19	3 21 33.63	2.3502	19 32 9.5	11.863	19	5 19 26.82	2.5409	26 20 55.7	4.748
20	3 23 54.78	2.3549	19 43 57.7	11.743	20	5 21 59.34	2.5430	26 25 35.4	4.577
21	3 26 16.22	2.3597	19 55 38.7	11.622	21	5 24 31.98	2.5450	26 30 4.9	4.405
22	3 28 37.95	2.3645	20 7 12.4	11.500	22	5 27 4.74	2.5468	26 34 24.0	4.233
23	3 30 59.96	2.3692	20 18 38.7	11.376	23	5 29 37.60	2.5485	26 38 32.8	4.061
24	3 33 22.26	2.3740	N. 20° 29' 57.5"	11.251	24	5 32 10.56	2.5502	N. 26° 42' 31.3"	3.888

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 17.					FRIDAY 19.				
0	^h 5 ^m 32 ^s 10.56	2.5502	N. 26° 42' 31.3"	3.888	0	^h 7 ^m 33 ^s 55.00	2.4713	N. 26° 26' 59.8"	4.390
1	5 34 43.62	2.5517	26 46 19.4	3.714	1	7 36 23.14	2.4667	26 24 35.9	4.477
2	5 37 16.77	2.5531	26 49 57.0	3.540	2	7 38 51.00	2.4620	26 20 2.5	4.634
3	5 39 49.99	2.5543	26 53 24.2	3.367	3	7 41 18.58	2.4572	26 15 19.8	4.788
4	5 42 23.28	2.5554	26 56 41.0	3.193	4	7 43 45.86	2.4531	26 10 27.9	4.942
5	5 44 56.64	2.5564	26 59 47.3	3.018	5	7 46 12.83	2.4489	26 5 26.8	5.094
6	5 47 30.05	2.5573	27 2 43.1	2.843	6	7 48 39.49	2.4418	26 0 16.6	5.246
7	5 50 3.51	2.5580	27 5 28.4	2.668	7	7 51 5.84	2.4366	25 54 57.3	5.397
8	5 52 37.01	2.5586	27 8 3.2	2.493	8	7 53 31.88	2.4313	25 49 29.0	5.545
9	5 55 10.54	2.5591	27 10 27.4	2.318	9	7 55 57.60	2.4259	25 43 51.9	5.693
10	5 57 44.10	2.5594	27 12 41.1	2.141	10	7 58 22.99	2.4204	25 38 6.0	5.839
11	6 0 17.67	2.5595	27 14 44.3	1.965	11	8 0 48.05	2.4149	25 32 11.2	5.985
12	6 2 51.24	2.5595	27 16 36.9	1.788	12	8 3 12.78	2.4093	25 26 7.7	6.130
13	6 5 24.81	2.5595	27 18 18.9	1.613	13	8 5 37.17	2.4036	25 19 55.6	6.272
14	6 7 58.38	2.5593	27 19 50.4	1.437	14	8 8 1.21	2.3978	25 13 35.0	6.414
15	6 10 31.93	2.5589	27 21 11.4	1.262	15	8 10 24.91	2.3920	25 7 5.9	6.555
16	6 13 5.45	2.5583	27 22 21.8	1.086	16	8 12 48.25	2.3861	25 0 28.4	6.694
17	6 15 38.93	2.5577	27 23 21.7	0.910	17	8 15 11.24	2.3802	24 53 42.6	6.832
18	6 18 12.37	2.5569	27 24 11.0	0.734	18	8 17 33.87	2.3743	24 46 48.5	6.970
19	6 20 45.76	2.5560	27 24 49.8	0.559	19	8 19 56.14	2.3681	24 39 46.2	7.105
20	6 23 19.09	2.5549	27 25 18.1	0.383	20	8 22 18.04	2.3620	24 32 35.9	7.239
21	6 25 52.35	2.5537	27 25 35.8	0.208	21	8 24 39.58	2.3559	24 25 17.6	7.373
22	6 28 25.53	2.5523	27 25 43.1	+ 0.034	22	8 27 0.75	2.3497	24 17 51.3	7.503
23	6 30 58.63	2.5508	N. 27° 25' 39.9"	- 0.141	23	8 29 21.54	2.3434	N. 24° 10' 17.2"	7.632
THURSDAY 18.					SATURDAY 20.				
0	6 33 31.63	2.5492	N. 27° 25' 26.2"	0.315	0	8 31 41.96	2.3371	N. 24° 2' 35.4"	7.761
1	6 36 4.53	2.5474	27 25 2.1	0.488	1	8 34 2.00	2.3308	23 54 45.9	7.899
2	6 38 37.32	2.5456	27 24 27.6	0.662	2	8 36 21.66	2.3245	23 46 48.7	8.016
3	6 41 10.00	2.5436	27 23 42.7	0.835	3	8 38 40.94	2.3181	23 38 44.0	8.141
4	6 43 42.55	2.5413	27 22 47.4	1.007	4	8 40 59.83	2.3117	23 30 31.8	8.264
5	6 46 14.96	2.5390	27 21 41.8	1.180	5	8 43 18.34	2.3052	23 22 12.3	8.386
6	6 48 47.23	2.5366	27 20 25.8	1.352	6	8 45 36.46	2.2987	23 13 45.5	8.507
7	6 51 19.35	2.5340	27 18 59.5	1.523	7	8 47 54.19	2.2922	23 5 11.5	8.626
8	6 53 51.31	2.5312	27 17 23.0	1.693	8	8 50 11.53	2.2858	22 56 30.4	8.743
9	6 56 23.10	2.5284	27 15 36.4	1.862	9	8 52 28.49	2.2793	22 47 42.3	8.860
10	6 58 54.72	2.5255	27 13 39.6	2.032	10	8 54 45.05	2.2727	22 38 47.2	8.975
11	7 1 26.16	2.5224	27 11 32.6	2.201	11	8 57 1.22	2.2662	22 29 45.3	9.087
12	7 3 57.41	2.5192	27 9 15.5	2.369	12	8 59 16.99	2.2596	22 20 36.7	9.199
13	7 6 28.46	2.5158	27 6 48.3	2.536	13	9 1 32.37	2.2530	22 11 21.4	9.311
14	7 8 59.30	2.5123	27 4 11.2	2.702	14	9 3 47.35	2.2464	22 1 59.4	9.421
15	7 11 29.94	2.5088	27 1 24.1	2.867	15	9 6 1.94	2.2398	21 52 30.9	9.528
16	7 14 0.36	2.5051	26 58 27.1	3.032	16	9 8 16.13	2.2332	21 42 56.0	9.635
17	7 16 30.55	2.5012	26 55 20.2	3.197	17	9 10 29.93	2.2267	21 33 14.7	9.740
18	7 19 0.51	2.4973	26 52 3.5	3.360	18	9 12 43.34	2.2201	21 23 27.2	9.843
19	7 21 30.23	2.4932	26 48 37.0	3.522	19	9 14 56.35	2.2135	21 13 33.5	9.946
20	7 23 59.70	2.4891	26 45 0.8	3.684	20	9 17 8.96	2.2069	21 3 33.7	10.047
21	7 26 28.92	2.4848	26 41 14.9	3.845	21	9 19 21.18	2.2004	20 53 27.9	10.148
22	7 28 57.88	2.4805	26 37 19.4	4.005	22	9 21 33.01	2.1939	20 43 16.2	10.243
23	7 31 26.58	2.4760	26 33 14.3	4.163	23	9 23 44.45	2.1873	20 32 58.7	10.339
24	7 33 55.00	2.4713	N. 26° 28' 59.8"	4.320	24	9 25 55.49	2.1807	N. 20° 22' 85.5"	10.434

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 21.					TUESDAY 23.				
0	9 25 55.49	2.1807	N. 20° 22' 35.5"	10.434	0	11 3 44.15	1.9139	N. 10° 37' 47.8"	13.443
1	9 28 6.14	2.1748	20 12 6.6	10.598	1	11 5 38.81	1.9089	10 24 20.2	13.477
2	9 30 16.40	2.1678	20 1 32.1	10.691	2	11 7 33.22	1.9048	10 10 50.6	13.509
3	9 32 26.28	2.1614	19 50 52.1	10.719	3	11 9 27.39	1.9007	9 57 19.1	13.541
4	9 34 35.77	2.1549	19 40 6.7	10.802	4	11 11 21.31	1.8967	9 43 45.7	13.571
5	9 36 44.87	2.1485	19 29 15.9	10.890	5	11 13 14.99	1.8927	9 30 10.6	13.599
6	9 38 53.59	2.1421	19 18 19.9	10.977	6	11 15 8.43	1.8888	9 16 33.8	13.627
7	9 41 1.93	2.1357	19 7 18.7	11.062	7	11 17 1.64	1.8850	9 2 55.3	13.654
8	9 43 9.88	2.1293	18 56 12.5	11.145	8	11 18 54.63	1.8819	8 49 15.3	13.679
9	9 45 17.45	2.1231	18 45 1.3	11.227	9	11 20 47.39	1.8775	8 35 33.8	13.704
10	9 47 24.65	2.1168	18 33 45.2	11.309	10	11 22 39.93	1.8739	8 21 50.8	13.728
11	9 49 31.47	2.1105	18 22 24.2	11.389	11	11 24 32.26	1.8704	8 8 6.4	13.751
12	9 51 37.91	2.1043	18 10 58.5	11.467	12	11 26 24.38	1.8669	7 54 20.7	13.772
13	9 53 43.98	2.0989	17 59 28.2	11.544	13	11 28 16.29	1.8635	7 40 33.7	13.793
14	9 55 49.69	2.0931	17 47 53.2	11.621	14	11 30 8.00	1.8601	7 26 45.5	13.813
15	9 57 55.03	2.0860	17 36 13.7	11.695	15	11 31 59.50	1.8568	7 12 56.1	13.839
16	10 0 0.01	2.0799	17 24 29.8	11.768	16	11 33 50.81	1.8536	6 59 5.6	13.851
17	10 2 4.62	2.0738	17 12 41.6	11.839	17	11 35 41.93	1.8505	6 45 14.0	13.868
18	10 4 8.87	2.0678	17 0 49.1	11.910	18	11 37 32.87	1.8474	6 31 21.4	13.884
19	10 6 12.76	2.0619	16 48 52.4	11.979	19	11 39 23.62	1.8443	6 17 27.9	13.899
20	10 8 16.30	2.0560	16 36 51.6	12.047	20	11 41 14.19	1.8414	6 3 33.5	13.913
21	10 10 19.49	2.0509	16 24 46.8	12.113	21	11 43 4.59	1.8366	5 49 38.3	13.927
22	10 12 22.33	2.0445	16 12 38.0	12.179	22	11 44 54.82	1.8358	5 35 42.3	13.939
23	10 14 24.83	2.0387	N. 16° 0' 25.3"	12.242	23	11 46 44.89	1.8331	N. 5° 21' 45.6"	13.950
MONDAY 22.					WEDNESDAY 24.				
0	10 16 26.98	2.0330	N. 15° 48' 8.9"	12.304	0	11 48 34.79	1.8304	N. 5° 7' 48.3"	13.960
1	10 18 28.79	2.0274	15 35 48.8	12.366	1	11 50 24.53	1.8277	4 53 50.4	13.970
2	10 20 30.27	2.0218	15 23 25.0	12.427	2	11 52 14.12	1.8253	4 39 51.9	13.980
3	10 22 31.41	2.0162	15 10 57.6	12.486	3	11 54 3.57	1.8229	4 25 52.8	13.988
4	10 24 32.22	2.0107	14 58 26.7	12.543	4	11 55 52.87	1.8205	4 11 53.3	13.994
5	10 26 32.70	2.0053	14 45 52.4	12.599	5	11 57 42.03	1.8180	3 57 53.5	14.000
6	10 28 32.86	1.9999	14 33 14.8	12.654	6	11 59 31.05	1.8159	3 43 53.3	14.006
7	10 30 32.69	1.9946	14 20 33.9	12.708	7	12 1 19.93	1.8137	3 29 52.8	14.010
8	10 32 32.21	1.9893	14 7 49.8	12.761	8	12 3 8.69	1.8117	3 15 52.1	14.014
9	10 34 31.41	1.9841	13 55 2.6	12.812	9	12 4 57.33	1.8097	3 1 51.1	14.017
10	10 36 30.30	1.9790	13 42 12.3	12.863	10	12 6 45.85	1.8077	2 47 50.0	14.018
11	10 38 28.89	1.9739	13 29 19.0	12.912	11	12 8 34.25	1.8057	2 33 48.9	14.019
12	10 40 27.17	1.9688	13 16 22.9	12.959	12	12 10 22.54	1.8039	2 19 47.7	14.020
13	10 42 25.15	1.9638	13 3 24.0	13.006	13	12 12 10.72	1.8029	2 5 46.5	14.019
14	10 44 22.83	1.9589	12 50 22.2	13.052	14	12 13 58.80	1.8005	1 51 45.4	14.018
15	10 46 20.22	1.9541	12 37 17.7	13.097	15	12 15 46.78	1.7988	1 37 44.4	14.016
16	10 48 17.32	1.9493	12 24 10.6	13.139	16	12 17 34.66	1.7973	1 23 43.5	14.013
17	10 50 14.14	1.9446	12 11 1.0	13.181	17	12 19 22.46	1.7959	1 9 42.8	14.009
18	10 52 10.67	1.9399	11 57 48.9	13.222	18	12 21 10.17	1.7945	0 55 42.4	14.004
19	10 54 6.92	1.9352	11 44 34.4	13.262	19	12 22 57.80	1.7931	0 41 42.3	13.999
20	10 56 2.90	1.9307	11 31 17.5	13.301	20	12 24 45.35	1.7918	0 27 42.5	13.993
21	10 57 58.61	1.9262	11 17 58.3	13.338	21	12 26 32.82	1.7907	N. 0° 13' 43.1"	13.986
22	10 59 54.05	1.9218	11 4 36.9	13.374	22	12 28 20.23	1.7896	S. 0° 0' 15.8"	13.978
23	11 1 49.23	1.9175	10 51 13.4	13.409	23	12 30 7.57	1.7885	0 14 14.2	13.969
24	11 3 44.15	1.9132	N. 10° 37' 47.8"	13.443	24	12 31 54.85	1.7875	S. 0° 28' 12.1"	13.960

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 25.					SATURDAY 27.				
0	12 31 54.85	1.7875	S. 0 28' 12"	13.900	0	13 57 53.28	1.8906	S. 11 13' 44.8"	12.065
1	12 33 42.07	1.7886	0 42 9.4	13.950	1	13 59 42.59	1.8920	11 26 23.4	12.621
2	12 35 29.24	1.7887	0 56 6.1	13.940	2	14 1 32.03	1.8929	11 38 59.3	12.576
3	12 37 16.36	1.7850	1 10 2.2	13.928	3	14 3 21.61	1.8976	11 51 32.5	12.530
4	12 39 3.44	1.7843	1 23 57.5	13.915	4	14 5 11.34	1.8301	12 4 2.9	12.484
5	12 40 50.48	1.7837	1 37 52.0	13.909	5	14 7 1.23	1.8387	12 16 30.5	12.437
6	12 42 37.48	1.7831	1 51 45.8	13.899	6	14 8 51.27	1.8353	12 28 55.3	12.389
7	12 44 24.45	1.7826	2 5 38.7	13.874	7	14 10 41.47	1.8380	12 41 17.2	12.340
8	12 46 11.39	1.7822	2 19 30.7	13.859	8	14 12 31.83	1.8406	12 53 36.1	12.291
9	12 47 58.31	1.7818	2 33 21.8	13.843	9	14 14 22.36	1.8436	13 5 52.1	12.242
10	12 49 45.21	1.7816	2 47 11.9	13.827	10	14 16 13.06	1.8464	13 18 5.1	12.191
11	12 51 32.10	1.7813	3 1 1.0	13.809	11	14 18 3.93	1.8492	13 30 15.0	12.139
12	12 53 18.97	1.7812	3 14 49.0	13.791	12	14 19 54.97	1.8522	13 42 21.7	12.086
13	12 55 5.84	1.7811	3 28 35.9	13.779	13	14 21 46.20	1.8553	13 54 25.3	12.033
14	12 56 52.70	1.7810	3 42 21.6	13.752	14	14 23 37.61	1.8584	14 6 25.7	11.980
15	12 58 39.56	1.7811	3 56 6.1	13.732	15	14 25 29.21	1.8616	14 18 22.9	11.926
16	13 0 26.43	1.7812	4 9 49.4	13.711	16	14 27 21.00	1.8648	14 30 16.8	11.871
17	13 2 13.31	1.7814	4 23 31.4	13.689	17	14 29 12.99	1.8681	14 42 7.4	11.815
18	13 4 0.20	1.7817	4 37 12.1	13.667	18	14 31 5.17	1.8714	14 53 54.6	11.758
19	13 5 47.11	1.7820	4 50 51.5	13.644	19	14 32 57.56	1.8748	15 5 38.4	11.701
20	13 7 34.04	1.7824	5 4 29.4	13.619	20	14 34 50.15	1.8789	15 17 18.7	11.642
21	13 9 21.00	1.7829	5 18 5.8	13.594	21	14 36 42.95	1.8817	15 28 55.5	11.583
22	13 11 7.99	1.7834	5 31 40.7	13.569	22	14 38 35.96	1.8853	15 40 28.7	11.523
23	13 12 55.01	1.7840	S. 5 45 14.1	13.543	23	14 40 29.19	1.8890	S. 15 51 58.3	11.463
FRIDAY 26.					SUNDAY 28.				
0	13 14 42.07	1.7847	S. 5 58 45.9	13.517	0	14 42 22.64	1.8997	S. 16 3 24.3	11.402
1	13 16 29.17	1.7854	6 12 16.1	13.489	1	14 44 16.31	1.8984	16 14 46.6	11.340
2	13 18 16.32	1.7869	6 25 44.6	13.461	2	14 46 10.21	1.9001	16 26 5.1	11.277
3	13 20 3.52	1.7871	6 39 11.4	13.439	3	14 48 4.33	1.9039	16 37 19.8	11.213
4	13 21 50.77	1.7880	6 52 36.5	13.409	4	14 49 58.68	1.9078	16 48 30.7	11.149
5	13 23 38.08	1.7890	7 5 59.7	13.378	5	14 51 53.27	1.9118	16 59 37.7	11.084
6	13 25 25.45	1.7901	7 19 21.1	13.341	6	14 53 48.10	1.9158	17 10 40.8	11.018
7	13 27 12.89	1.7912	7 32 40.6	13.309	7	14 55 43.17	1.9198	17 21 39.9	10.951
8	13 29 0.40	1.7924	7 45 58.2	13.277	8	14 57 38.48	1.9239	17 32 34.9	10.884
9	13 30 47.98	1.7937	7 59 13.9	13.244	9	14 59 34.04	1.9281	17 43 25.9	10.816
10	13 32 35.64	1.7950	8 12 27.5	13.210	10	15 1 29.85	1.9322	17 54 12.8	10.747
11	13 34 23.38	1.7964	8 25 39.1	13.176	11	15 3 25.91	1.9364	18 4 55.5	10.678
12	13 36 11.21	1.7979	8 38 48.6	13.141	12	15 5 22.22	1.9407	18 15 33.9	10.606
13	13 37 59.13	1.7994	8 51 56.0	13.105	13	15 7 18.79	1.9451	18 26 8.1	10.533
14	13 39 47.14	1.8010	9 5 1.2	13.068	14	15 9 15.63	1.9496	18 36 37.9	10.461
15	13 41 35.25	1.8027	9 18 4.2	13.031	15	15 11 12.73	1.9539	18 47 3.4	10.388
16	13 43 23.46	1.8044	9 31 5.0	12.993	16	15 13 10.10	1.9584	18 57 24.5	10.314
17	13 45 11.78	1.8062	9 44 3.4	12.954	17	15 15 7.74	1.9629	19 7 41.1	10.238
18	13 47 0.20	1.8080	9 56 59.5	12.915	18	15 17 5.65	1.9675	19 17 53.1	10.162
19	13 48 48.74	1.8100	10 9 53.2	12.875	19	15 19 3.84	1.9721	19 28 0.5	10.086
20	13 50 37.40	1.8120	10 22 44.5	12.835	20	15 21 2.30	1.9767	19 38 3.4	10.009
21	13 52 26.18	1.8140	10 35 33.4	12.794	21	15 23 1.04	1.9814	19 48 1.6	9.930
22	13 54 15.08	1.8161	10 48 19.8	12.752	22	15 25 0.07	1.9861	19 57 55.0	9.851
23	13 56 4.11	1.8183	11 1 3.6	12.708	23	15 26 59.38	1.9908	20 7 43.7	9.771
24	13 57 53.28	1.8206	S. 11 13 44.8	12.665	24	15 28 58.97	1.9956	S. 20 17 27.5	9.689

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 29.					WEDNESDAY 31.				
0	15 28 58.97	1.9956	S. 20° 17' 27.5	9.689	0	17 10 44.16	2.9460	S. 26° 11' 40.0	4.706
1	15 30 58.85	2.0005	20 27 6.4	9.607	1	17 12 59.07	2.9510	26 16 18.5	4.578
2	15 32 59.03	2.0054	20 36 40.4	9.585	2	17 15 14.28	2.9560	26 20 49.3	4.450
3	15 34 59.50	2.0103	20 46 9.4	9.441	3	17 17 29.79	2.9600	26 25 12.5	4.392
4	15 37 0.27	2.0152	20 55 33.3	9.356	4	17 19 45.59	2.9657	26 29 27.9	4.191
5	15 39 1.33	2.0209	21 4 52.1	9.371	5	17 22 1.68	2.9708	26 33 35.4	4.060
6	15 41 2.69	2.0258	21 14 5.8	9.185	6	17 24 18.06	2.9754	26 37 35.1	3.998
7	15 43 4.35	2.0309	21 23 14.3	9.097	7	17 26 34.73	2.9809	26 41 26.8	3.796
8	15 45 6.32	2.0353	21 32 17.5	9.008	8	17 28 51.69	2.9850	26 45 10.6	3.669
9	15 47 8.59	2.0404	21 41 15.3	8.919	9	17 31 8.93	2.9896	26 48 46.3	3.597
10	15 49 11.17	2.0455	21 50 7.8	8.830	10	17 33 26.44	2.9941	26 52 13.9	3.392
11	15 51 14.05	2.0506	21 58 54.9	8.739	11	17 35 44.22	2.9987	26 55 33.4	3.257
12	15 53 17.24	2.0558	22 7 36.5	8.647	12	17 38 2.28	2.3038	26 58 44.8	3.191
13	15 55 20.74	2.0610	22 16 12.5	8.554	13	17 40 20.61	2.3077	27 1 47.9	2.989
14	15 57 24.56	2.0669	22 24 43.0	8.461	14	17 42 39.20	2.3119	27 4 42.7	2.843
15	15 59 28.69	2.0715	22 33 7.8	8.366	15	17 44 58.04	2.3162	27 7 29.1	2.704
16	16 1 33.14	2.0767	22 41 26.9	8.270	16	17 47 17.14	2.3204	27 10 7.2	2.564
17	16 3 37.90	2.0820	22 49 40.2	8.172	17	17 49 36.49	2.3247	27 12 36.8	2.423
18	16 5 42.98	2.0873	22 57 47.6	8.074	18	17 51 56.10	2.3288	27 14 58.0	2.289
19	16 7 48.38	2.0926	23 5 49.1	7.976	19	17 54 15.95	2.3328	27 17 10.7	2.139
20	16 9 54.10	2.0979	23 13 44.8	7.878	20	17 56 36.04	2.3367	27 19 14.7	1.995
21	16 12 0.13	2.1033	23 21 34.5	7.778	21	17 58 56.36	2.3406	27 21 10.1	1.851
22	16 14 6.49	2.1086	23 29 18.2	7.676	22	18 1 16.91	2.3444	27 22 56.8	1.706
23	16 16 13.17	2.1139	S. 23° 36' 55.7	7.573	23	18 3 37.69	2.3482	S. 27° 24' 34.8	1.561
TUESDAY 30.					THURSDAY, SEPTEMBER 1.				
0	16 18 20.16	2.1193	S. 23° 44' 27.0	7.470	0	18 5 58.70	2.3519	S. 27° 26' 4.1	1.415
1	16 20 27.48	2.1247	23 51 52.1	7.367	PHASES OF THE MOON.				
2	16 22 35.12	2.1300	23 59 11.0	7.262					
3	16 24 43.08	2.1354	24 6 23.5	7.155					
4	16 26 51.37	2.1408	24 13 29.6	7.048					
5	16 28 59.98	2.1463	24 20 29.3	6.940	d h m ○ Full Moon . . . August 7 23 57.2 ☾ Last Quarter . . . 14 18 37.2 ● New Moon . . . 21 22 58.9 ☾ First Quarter . . . 30 1 28.9				
6	16 31 8.91	2.1515	24 27 22.4	6.830					
7	16 33 18.16	2.1569	24 34 8.9	6.721					
8	16 35 27.74	2.1623	24 40 48.9	6.611					
9	16 37 37.64	2.1677	24 47 22.2	6.499	d h ☾ Perigee . . . August 11 22.5 ☾ Apogee 27 13.3				
10	16 39 47.86	2.1730	24 53 48.7	6.386					
11	16 41 58.40	2.1783	25 0 8.5	6.272					
12	16 44 9.26	2.1837	25 6 21.4	6.157					
13	16 46 20.44	2.1890	25 12 27.3	6.041					
14	16 48 31.94	2.1943	25 18 26.3	5.925					
15	16 50 43.75	2.1995	25 24 18.3	5.807					
16	16 52 55.88	2.2048	25 30 3.2	5.688					
17	16 55 8.33	2.2101	25 35 40.9	5.568					
18	16 57 21.09	2.2153	25 41 11.4	5.448					
19	16 59 34.16	2.2204	25 46 34.7	5.326					
20	17 1 47.54	2.2256	25 51 50.6	5.203					
21	17 4 1.24	2.2308	25 56 59.1	5.080					
22	17 6 15.24	2.2359	26 2 0.2	4.957					
23	17 8 29.55	2.2410	26 6 53.9	4.832					
24	17 10 44.16	2.2460	S. 26° 11' 40.0	4.705					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^b .	P. L. of Diff.	VI ^b .	P. L. of Diff.	IX ^b .	P. L. of Diff.
1	SUN W.	97° 21' 44"	3486	98° 43' 31"	3490	100° 5' 25"	3415	101° 27' 25"	3408
	SATURN W.	50 7 27	3081	51 36 0	3078	53 4 39	3070	54 33 25	3065
	Spica W.	24 42 14	3096	26 10 20	3086	27 38 56	3076	29 7 35	3065
	α Aquilæ E.	75 39 2	3949	74 26 25	3950	73 13 56	3959	72 1 36	3970
	MARS E.	85 59 52	2951	84 28 38	2946	82 57 17	2941	81 25 50	2935
2	SUN W.	108 19 20	3371	109 42 10	3362	111 5 10	3352	112 28 21	3344
	SATURN W.	61 59 14	3028	63 28 52	3020	64 58 40	3010	66 28 40	3001
	Spica W.	36 33 51	3017	38 3 43	3007	39 33 47	2997	41 4 4	2986
	α Aquilæ E.	66 2 50	4037	64 51 47	4055	63 41 2	4075	62 30 36	4086
	MARS E.	73 46 31	2899	72 14 11	2891	70 41 41	2883	69 9 0	2873
	Fomalhaut E.	92 41 53	3171	91 15 9	3162	89 48 14	3153	88 21 9	3144
3	SATURN W.	74 1 41	2949	75 32 58	2938	77 4 29	2936	78 36 15	2913
	Spica W.	48 38 55	2929	50 10 37	2917	51 42 34	2905	53 14 47	2892
	α Aquilæ E.	56 44 28	4944	55 36 43	4933	54 29 35	4927	53 23 7	4914
	MARS E.	61 22 30	2923	59 48 32	2911	58 14 19	2900	56 39 51	2886
	Fomalhaut E.	81 2 58	3097	79 34 45	3088	78 6 21	3078	76 37 45	3069
	α Pegasi E.	101 8 8	3295	99 43 51	3280	98 19 16	3265	96 54 24	3251
4	SATURN W.	86 19 4	2949	87 52 28	2936	89 26 9	2922	91 0 8	2908
	Spica W.	61 0 0	2925	62 33 55	2912	64 8 7	2798	65 42 38	2784
	MARS E.	48 43 37	2727	47 7 33	2713	45 31 11	2701	43 54 32	2687
	Fomalhaut E.	69 11 52	3022	67 42 7	3014	66 12 12	3005	64 42 6	2996
	α Pegasi E.	89 45 53	3169	88 19 22	3169	86 52 36	3157	85 25 35	3144
5	SATURN W.	98 54 40	2737	100 30 31	2722	102 6 42	2707	103 43 12	2692
	Spica W.	73 39 53	2711	75 16 18	2697	76 53 2	2689	78 30 6	2667
	Antares W.	27 45 48	2717	29 22 5	2701	30 58 43	2686	32 35 42	2670
	MARS E.	35 46 44	2619	34 8 15	2606	32 29 28	2593	30 50 23	2579
	Fomalhaut E.	57 9 21	2966	55 38 26	2962	54 7 25	2959	52 36 21	2957
	α Pegasi E.	78 6 56	3080	76 38 34	3080	75 10 0	3071	73 41 15	3064
6	Spica W.	86 40 23	2594	88 19 26	2580	89 58 48	2566	91 38 30	2551
	Antares W.	40 45 52	2593	42 24 56	2578	44 4 21	2564	45 44 5	2549
	Fomalhaut E.	45 1 4	2973	43 30 18	2963	41 59 44	2997	40 29 27	3014
	α Pegasi E.	66 15 27	3037	64 46 0	3035	63 16 31	3034	61 47 1	3036
	JUPITER E.	95 32 57	2593	93 53 53	2578	92 14 28	2564	90 34 43	2550
7	Antares W.	54 7 46	2460	55 49 28	2466	57 31 29	2453	59 13 48	2440
	α Pegasi E.	54 20 37	3070	52 51 51	3064	51 23 22	3101	49 55 14	3124
	JUPITER E.	82 11 8	2461	80 29 28	2467	78 47 29	2455	77 5 12	2441
	α Arietis E.	94 21 17	2547	92 41 9	2534	91 0 43	2521	89 19 59	2508
8	Antares W.	67 49 48	2381	69 33 50	2371	71 18 7	2360	73 2 39	2350
	JUPITER E.	68 29 23	2392	66 45 23	2372	65 1 8	2361	63 16 37	2351
	α Arietis E.	80 52 6	2452	79 9 45	2449	77 27 10	2433	75 44 22	2424
9	Antares W.	81 48 50	2305	83 34 42	2297	85 20 46	2290	87 7 0	2283
	α Aquilæ W.	44 41 15	4446	45 45 55	4308	46 52 40	4184	48 1 21	4071
	JUPITER E.	54 30 34	2306	52 44 43	2298	50 58 40	2291	49 12 27	2283
	α Arietis E.	67 7 27	2388	65 23 35	2382	63 39 35	2378	61 55 28	2374

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SUN	W.	102° 49' 32"	3401	104° 11' 47"	3395	105° 34' 9"	3387	106° 56' 40"	3379
	SATURN	W.	56 2 18	3058	57 31 19	3052	59 0 28	3044	60 29 46	3036
	Spica	W.	30 36 27	3056	32 5 30	3047	33 34 45	3037	35 4 12	3027
	α Aquilæ	E.	70 49 27	3981	69 37 29	3992	68 25 42	4005	67 14 9	4021
	MARS	E.	79 54 15	2928	78 22 32	2922	76 50 41	2915	75 18 41	2907
2	SUN	W.	113 51 42	3333	115 15 15	3323	116 39 0	3319	118 2 58	3300
	SATURN	W.	67 58 51	2992	69 29 14	2981	70 59 50	2971	72 30 39	2961
	Spica	W.	42 34 34	2975	44 5 18	2964	45 36 16	2953	47 7 28	2941
	α Aquilæ	E.	61 20 32	4120	60 10 50	4147	59 1 34	4177	57 52 46	4208
	MARS	E.	67 36 7	2984	66 3 2	2955	64 29 45	2944	62 56 14	2934
	Fomalhaut	E.	86 53 53	3135	85 26 26	3126	83 58 48	3117	82 30 59	3107
3	SATURN	W.	80 8 17	2901	81 40 35	2889	83 13 8	2876	84 45 58	2863
	Spica	W.	54 47 16	2979	56 20 2	2966	57 53 4	2953	59 26 23	2939
	α Aquilæ	E.	52 17 22	4497	51 12 25	4485	50 8 20	4450	49 5 12	4432
	MARS	E.	55 5 8	2776	53 30 9	2765	51 54 55	2752	50 19 24	2740
	Fomalhaut	E.	75 8 58	3060	73 39 59	3050	72 10 48	3041	70 41 26	3031
	α Pegasi	E.	95 29 15	3236	94 3 49	3223	92 38 7	3209	91 12 8	3195
4	SATURN	W.	92 34 25	2794	94 9 1	2780	95 43 55	2766	97 19 8	2751
	Spica	W.	67 17 27	2769	68 52 35	2755	70 28 2	2741	72 3 48	2726
	MARS	E.	42 17 35	2674	40 40 20	2660	39 2 46	2646	37 24 54	2633
	Fomalhaut	E.	63 11 51	2990	61 41 26	2983	60 10 52	2977	58 40 10	2971
	α Pegasi	E.	83 58 19	3133	82 30 49	3120	81 3 4	3110	79 35 6	3100
5	SATURN	W.	105 20 2	2678	106 57 11	2663	108 34 40	2649	110 12 29	2635
	Spica	W.	80 7 30	2952	81 45 14	2938	83 23 17	2924	85 1 40	2909
	Antares	W.	34 13 2	2655	35 50 43	2639	37 28 45	2624	39 7 8	2608
	MARS	E.	29 10 59	2566	27 31 17	2553	25 51 17	2540	24 10 59	2527
	Fomalhaut	E.	51 5 14	2957	49 34 7	2958	48 3 1	2961	46 31 59	2966
	α Pegasi	E.	72 12 21	3056	70 43 18	3050	69 14 7	3045	67 44 50	3040
6	Spica	W.	93 18 32	2538	94 58 53	2524	96 39 33	2510	98 20 32	2497
	Antares	W.	47 24 10	2535	49 4 35	2521	50 45 19	2507	52 26 23	2493
	Fomalhaut	E.	38 59 31	3035	37 30 2	3061	36 1 5	3095	34 32 49	3134
	α Pegasi	E.	60 17 33	3039	58 48 8	3043	57 18 49	3049	55 49 37	3059
	JUPITER	E.	88 54 39	2535	87 14 15	2522	85 33 32	2507	83 52 29	2494
7	Antares	W.	60 56 26	2428	62 39 21	2416	64 22 33	2404	66 6 2	2392
	α Pegasi	E.	48 27 33	3148	47 0 22	3178	45 33 47	3214	44 7 54	3254
	JUPITER	E.	75 22 36	2429	73 39 43	2417	71 56 33	2405	70 13 6	2394
	α Arietis	E.	87 38 57	2406	85 57 38	2405	84 16 3	2473	82 34 12	2462
8	Antares	W.	74 47 26	2340	76 32 57	2331	78 17 42	2323	80 3 10	2313
	JUPITER	E.	61 31 52	2341	59 46 22	2332	58 1 39	2322	56 16 13	2314
	α Arietis	E.	74 1 21	2416	72 18 9	2406	70 34 45	2401	68 51 11	2394
9	Antares	W.	88 53 25	2277	90 39 59	2270	92 26 43	2264	94 13 35	2260
	α Aquilæ	W.	49 11 51	2969	50 24 1	2976	51 37 45	2792	52 52 56	2715
	JUPITER	E.	47 26 3	2277	45 39 29	2270	43 52 46	2265	42 5 55	2259
	α Arietis	E.	60 11 16	2371	58 26 59	2368	56 42 39	2367	54 58 17	2366

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	α Aquilæ W.	54° 9' 27"	3645	55° 27' 13"	3580	56° 46' 9"	3593	58° 6' 8"	3469
	MARS W.	33 56 42	2181	35 45 38	2176	37 34 41	2179	39 23 51	2169
	JUPITER E.	40 18 55	2253	38 31 47	2249	36 44 33	2245	34 57 13	2241
	α Arietis E.	53 13 54	2366	51 29 31	2368	49 45 11	2371	48 0 54	2375
	Aldebaran E.	83 16 47	2291	81 30 34	2287	79 44 15	2283	77 57 51	2280
11	α Aquilæ W.	64 59 23	3968	66 24 12	3938	67 49 36	3911	69 15 32	3168
	MARS W.	48 30 53	2155	50 20 28	2154	52 10 5	2153	53 59 43	2153
	Fomalhaut W.	31 22 49	2946	32 54 10	2978	34 26 57	2980	36 0 59	2789
	α Arietis E.	39 21 32	2417	37 38 21	2431	35 55 31	2449	34 13 6	2471
	Aldebaran E.	69 4 55	2272	67 18 14	2272	65 31 33	2272	63 44 53	2273
12	α Aquilæ W.	76 31 20	3184	77 59 25	3094	79 27 42	3085	80 56 10	3078
	MARS W.	63 7 56	2155	64 57 32	2157	66 47 5	2158	68 36 36	2161
	Fomalhaut W.	44 5 3	2904	45 43 52	2983	47 23 11	2964	49 2 55	2948
	Aldebaran E.	54 52 8	2286	53 5 48	2290	51 19 34	2295	49 33 27	2291
	VENUS E.	88 37 31	2421	86 54 26	2423	85 11 24	2426	83 28 27	2429
13	MARS W.	77 43 15	2174	79 32 21	2178	81 21 22	2182	83 10 17	2186
	Fomalhaut W.	57 26 11	2497	59 7 28	2491	60 48 54	2487	62 30 26	2483
	α Pegasi W.	40 37 30	3198	42 3 41	3138	43 31 4	3085	44 59 32	3038
	Aldebaran E.	40 45 21	2342	39 0 23	2353	37 15 40	2365	35 31 15	2380
	VENUS E.	74 55 2	2452	73 12 41	2458	71 30 29	2464	69 48 25	2471
14	Pollux E.	84 14 17	2946	82 26 58	2950	80 39 45	2953	78 52 37	2957
	Fomalhaut W.	70 59 0	2477	72 40 46	2478	74 22 30	2480	76 4 12	2482
	α Pegasi W.	52 34 17	2976	54 7 6	2955	55 40 23	2936	57 14 4	2919
	VENUS E.	61 20 35	2509	59 39 34	2518	57 58 46	2527	56 18 11	2537
	Pollux E.	69 58 26	2279	68 11 56	2284	66 25 33	2280	64 39 18	2294
15	SUN E.	100 12 13	2599	98 33 16	2604	96 54 26	2609	95 15 43	2614
	Fomalhaut W.	84 31 41	2500	86 12 54	2505	87 54 0	2511	89 34 58	2517
	α Pegasi W.	65 6 58	2786	66 42 10	2761	68 17 29	2756	69 52 55	2753
	JUPITER W.	31 10 5	2317	32 55 40	2293	34 41 6	2298	36 26 24	2335
	VENUS E.	47 58 54	2595	46 19 52	2610	44 41 10	2604	43 2 47	2640
16	Pollux E.	55 49 59	2392	54 4 32	2398	52 19 14	2334	50 34 4	2341
	SUN E.	87 4 2	2643	85 26 6	2650	83 48 19	2656	82 10 40	2663
	α Pegasi W.	77 50 44	2750	79 26 17	2752	81 1 48	2755	82 37 15	2758
	JUPITER W.	45 10 44	2364	46 55 10	2371	48 39 27	2377	50 23 35	2384
	α Arietis W.	34 24 12	2591	36 3 20	2579	37 42 44	2570	39 22 20	2563
17	Pollux E.	41 50 35	2373	40 6 22	2380	38 22 18	2387	36 38 24	2394
	SUN E.	74 4 41	2697	72 27 57	2704	70 51 22	2711	69 14 57	2719
	JUPITER W.	59 1 53	2417	60 45 5	2424	62 28 6	2431	64 10 57	2437
	α Arietis W.	47 42 2	2550	49 22 6	2550	51 2 10	2551	52 42 12	2553
	SUN E.	61 15 23	2757	59 39 59	2765	58 4 46	2774	56 29 44	2782
18	JUPITER W.	72 42 46	2472	74 24 38	2480	76 6 19	2487	77 47 50	2495
	α Arietis W.	61 1 27	2570	62 41 3	2575	64 20 32	2580	65 59 55	2585
	Aldebaran W.	30 41 34	2627	32 19 52	2621	33 58 18	2618	35 36 49	2615
	SUN E.	48 37 22	2927	47 3 29	2936	45 29 48	2946	43 56 20	2956

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	α Aquilæ W.	59° 27' 4"	3491	60° 49' 0"	3377	62° 11' 43"	3337	63° 35' 12"	3300
	MARS W.	41 13 6	9165	43 2 27	9169	44 51 52	9159	46 41 21	9157
	JUPITER E.	33 9 47	9238	31 22 16	9235	29 34 41	9233	27 47 2	9230
	α Arietis E.	46 16 43	9380	44 32 39	9386	42 48 44	9394	41 5 1	9404
	Aldebaran E.	76 11 22	9277	74 24 49	9275	72 38 13	9274	70 51 35	9272
11	α Aquilæ W.	70 41 56	3166	72 8 46	3148	73 35 58	3131	75 3 30	3116
	MARS W.	55 49 22	9153	57 30 1	9153	59 28 40	9153	61 18 19	9154
	Fomalhaut W.	37 36 8	9796	39 12 13	9689	40 49 8	9657	42 26 46	9636
	α Arietis E.	32 31 12	9496	30 49 53	9597	29 9 17	9563	27 29 31	9606
	Aldebaran E.	61 58 14	9275	60 11 38	9277	58 25 4	9279	56 38 34	9262
12	α Aquilæ W.	82 24 46	3073	83 53 28	3070	85 22 14	3069	86 51 1	3069
	MARS W.	70 26 3	9163	72 15 27	9165	74 4 48	9168	75 54 4	9171
	Fomalhaut W.	50 43 1	9535	52 23 26	9599	54 4 8	9512	55 45 4	9504
	Aldebaran E.	47 47 29	9307	46 1 40	9314	44 16 1	9322	42 30 34	9332
	VENUS E.	81 45 34	9433	80 2 47	9437	78 20 5	9442	76 37 30	9447
13	MARS W.	84 59 6	9190	86 47 49	9194	88 36 25	9199	90 24 54	9204
	Fomalhaut W.	64 12 3	9480	65 53 44	9478	67 35 28	9477	69 17 14	9477
	α Pegasi W.	46 28 58	9297	47 59 15	9261	49 30 17	9229	51 1 59	9201
	Aldebaran E.	33 47 11	9396	32 3 30	9415	30 20 16	9436	28 37 33	9462
	VENUS E.	68 6 31	9477	66 24 46	9485	64 43 12	9492	63 1 48	9500
	Pollux E.	77 5 34	9261	75 18 37	9266	73 31 47	9270	71 45 3	9274
14	Fomalhaut W.	77 45 51	9485	79 27 26	9488	81 8 56	9492	82 50 21	9495
	α Pegasi W.	58 48 7	9605	60 22 28	9793	61 57 5	9762	63 31 56	9774
	VENUS E.	54 37 49	9548	52 57 42	9559	51 17 50	9570	49 38 14	9582
	Pollux E.	62 53 10	9300	61 7 10	9305	59 21 18	9311	57 35 34	9317
	SUN E.	92 37 7	9690	91 58 39	9696	90 20 19	9631	88 42 6	9638
15	Fomalhaut W.	91 15 48	9592	92 56 30	9530	94 37 2	9537	96 17 24	9544
	α Pegasi W.	71 28 25	9750	73 3 58	9749	74 39 33	9748	76 15 9	9749
	JUPITER W.	38 11 33	9340	39 56 34	9346	41 41 26	9353	43 26 9	9358
	VENUS E.	41 24 46	9657	39 47 8	9675	38 9 54	9695	36 33 7	9716
	Pollux E.	48 49 4	9347	47 4 13	9353	45 19 31	9359	43 34 58	9366
	SUN E.	80 33 10	9669	78 55 49	9676	77 18 37	9683	75 41 34	9690
16	α Pegasi W.	84 12 38	9763	85 47 55	9768	87 23 5	9773	88 58 8	9779
	JUPITER W.	52 7 33	9380	53 51 22	9386	55 35 2	9403	57 18 32	9410
	α Arietis W.	41 2 6	9558	42 41 59	9554	44 21 57	9552	46 1 58	9550
	Pollux E.	34 54 40	9401	33 11 7	9408	31 27 44	9416	29 44 32	9424
	SUN E.	67 38 42	9796	66 2 37	9794	64 26 42	9741	62 50 57	9750
17	JUPITER W.	65 53 39	9444	67 36 11	9451	69 18 33	9458	71 0 45	9466
	α Arietis W.	54 22 11	9556	56 2 7	9559	57 41 59	9562	59 21 46	9566
	SUN E.	54 54 53	9791	53 20 13	9799	51 45 44	9806	50 11 27	9818
18	JUPITER W.	79 29 10	9503	81 10 19	9510	82 51 18	9518	84 32 6	9526
	α Arietis W.	67 39 10	9591	69 18 17	9597	70 57 16	9604	72 36 6	9610
	Aldebaran W.	37 15 24	9615	38 53 59	9615	40 32 34	9616	42 11 7	9619
	SUN E.	42 23 5	9866	40 50 3	9877	39 17 15	9886	37 44 41	9900

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
19	JUPITER W.	86° 12' 43"	2534	87° 53' 9"	2543	89° 33' 23"	2551	91° 13' 26"	2559
	α Arietis W.	74 14 48	2617	75 53 20	2624	77 31 43	2631	79 9 36	2639
	Aldebaran W.	43 49 36	2622	45 28 1	2625	47 6 22	2629	48 44 37	2635
	SUN E.	36 12 22	2919	34 40 18	2924	33 8 29	2937	31 36 57	2951
20	α Arietis W.	87 18 20	2680	88 55 27	2688	90 32 23	2696	92 9 6	2707
	Aldebaran W.	56 54 2	2664	58 31 30	2672	60 8 48	2679	61 45 56	2687
	SUN E.	24 4 5	3038	22 34 39	3060	21 5 41	3067	19 37 15	3116
23	SUN W.	12 53 20	3480	14 14 6	3438	15 35 40	3409	16 57 46	3389
	Spica E.	39 52 10	2860	38 19 0	2872	36 46 5	2883	35 13 24	2894
	Antares E.	85 41 13	2642	84 7 39	2652	82 34 18	2661	81 1 9	2671
24	SUN W.	23 51 53	3360	25 14 55	3360	26 37 57	3363	28 0 56	3365
	Spica E.	27 33 47	2956	26 2 39	2970	24 31 49	2985	23 1 18	3001
	Antares E.	73 18 29	2918	71 46 33	2927	70 14 48	2935	68 43 14	2944
25	SUN W.	34 54 47	3388	36 17 17	3394	37 39 40	3400	39 1 57	3404
	Antares E.	61 8 5	2985	59 37 34	2993	58 7 12	3001	56 37 0	3007
	MARS E.	120 14 39	2939	118 43 10	2947	117 11 51	2955	115 40 42	2962
26	SUN W.	45 51 57	3430	47 13 40	3434	48 35 18	3438	49 56 51	3442
	SATURN W.	19 53 32	3083	21 22 2	3087	22 50 27	3091	24 18 47	3096
	Antares E.	49° 8 3	3039	47 38 39	3044	46 9 21	3049	44 40 9	3055
	MARS E.	108 7 8	2995	106 36 49	3001	105 6 38	3006	103 36 33	3012
27	SUN W.	56 43 38	3457	58 4 50	3459	59 26 0	3460	60 47 9	3462
	SATURN W.	31 39 19	3112	33 7 14	3114	34 35 7	3115	36 2 58	3117
	MARS E.	96 7 36	3031	94 38 2	3034	93 8 32	3037	91 39 5	3039
28	SUN W.	67 32 41	3461	68 53 49	3460	70 14 58	3457	71 36 10	3455
	SATURN W.	43 21 56	3118	44 49 44	3116	46 17 34	3114	47 45 26	3113
	Spica W.	20 52 12	3138	22 19 36	3138	23 47 12	3130	25 14 57	3119
	α Aquilæ E.	78 56 9	3048	77 43 38	3056	76 31 15	3066	75 19 2	3076
	MARS E.	84 12 19	3043	82 43 0	3043	81 13 40	3042	79 44 19	3041
29	SUN W.	78 22 59	3436	79 44 35	3430	81 6 18	3424	82 28 7	3418
	SATURN W.	55 5 33	3096	56 33 48	3091	58 2 9	3086	59 30 36	3080
	Spica W.	32 35 49	3080	34 4 23	3073	35 33 6	3066	37 1 57	3058
	α Aquilæ E.	69 20 47	4042	68 9 49	4056	66 59 6	4075	65 48 40	4085
	MARS E.	72 16 58	3026	70 47 18	3022	69 17 33	3018	67 47 43	3013
30	SUN W.	89 19 12	3379	90 41 53	3369	92 4 45	3359	93 27 48	3350
	SATURN W.	66 54 50	3043	68 24 9	3035	69 53 38	3026	71 23 19	3017
	Spica W.	44 28 38	3017	45 58 30	3008	47 28 33	2997	48 58 49	2988
	α Aquilæ E.	60 1 40	4217	58 53 30	4247	57 45 48	4281	56 38 38	4319
	MARS E.	60 16 44	2980	58 46 6	2973	57 15 19	2964	55 44 21	2956
31	SUN W.	100 26 9	3391	101 50 31	3378	103 15 8	3365	104 40 0	3351
	Spica W.	56 33 27	2931	58 5 6	2919	59 37 1	2908	61 9 12	2893
	MARS E.	48 6 35	2905	46 34 22	2893	45 1 54	2889	43 29 12	2889
	α Aquilæ E.	51 12 27	4566	50 9 33	4631	49 7 35	4703	48 6 38	4782

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
19	JUPITER	W.	92° 53' 18"	2567	91° 32' 58"	2575	96° 12' 27"	2584	97° 51' 44"	2592
	α Arietis	W.	80 47 58	2646	82 25 50	2655	84 3 31	2663	85 41 1	2671
	Aldebaran	W.	50 22 45	2640	52 0 46	2645	53 38 40	2652	55 16 25	2657
	SUN	E.	30 5 43	2965	28 34 47	2981	27 4 11	2998	25 33 56	3018
20	α Arietis	W.	93 45 37	2716	95 21 55	2725	96 58 1	2735	98 33 54	2745
	Aldebaran	W.	63 22 54	2694	64 59 42	2702	66 36 19	2710	68 12 45	2718
	SUN	E.	18 9 25	3152	16 42 18	3195	15 16 3	3250	13 50 53	3320
23	SUN	W.	18 20 15	3376	19 42 59	3368	21 5 52	3363	22 28 51	3360
	Spica	E.	33 40 58	2906	32 8 47	2918	30 36 51	2931	29 5 11	2943
	Antares	E.	79 28 13	2880	77 55 29	2890	76 22 57	2899	74 50 37	2909
24	SUN	W.	20 23 52	3370	30 46 43	3373	32 9 30	3379	33 32 11	3383
	Spica	E.	21 31 7	3019	20 1 18	3038	18 31 52	3059	17 2 52	3082
	Antares	E.	67 11 51	2953	65 40 39	2961	64 9 37	2969	62 38 46	2977
25	SUN	W.	40 24 9	3410	41 46 14	3415	43 8 14	3420	44 30 8	3424
	Antares	E.	55 6 56	3014	53 37 1	3021	52 7 14	3027	50 37 35	3033
	MARS	E.	114 9 42	2969	112 38 51	2977	111 8 9	2983	109 37 35	2989
26	SUN	W.	51 18 20	3446	52 39 45	3449	54 1 6	3452	55 22 24	3455
	SATURN	W.	25 47 2	3100	27 15 12	3103	28 43 18	3106	30 11 20	3109
	Antares	E.	43 11 4	3059	41 42 4	3064	40 13 10	3067	38 44 20	3071
	MARS	E.	102 6 35	3017	100 36 43	3021	99 6 56	3025	97 37 14	3028
27	SUN	W.	62 8 16	3463	63 29 22	3463	64 50 28	3463	66 11 34	3462
	SATURN	W.	37 30 47	3118	38 58 35	3119	40 26 22	3119	41 54 9	3119
	MARS	E.	90 9 41	3041	88 40 19	3042	87 10 58	3043	85 41 38	3043
28	SUN	W.	72 57 24	3452	74 18 42	3449	75 40 3	3445	77 1 20	3441
	SATURN	W.	49 13 20	3110	50 41 17	3107	52 9 18	3104	53 37 23	3100
	Spica	W.	26 42 52	3106	28 10 54	3099	29 39 5	3093	31 7 23	3087
	α Aquilæ	E.	74 6 59	3987	72 55 7	4000	71 43 27	4013	70 32 0	4027
	MARS	E.	78 14 57	3039	76 45 32	3036	75 16 4	3034	73 46 33	3030
29	SUN	W.	83 50 3	3411	85 12 7	3403	86 34 20	3396	87 56 41	3387
	SATURN	W.	60 59 10	3073	62 27 52	3067	63 56 42	3060	65 25 41	3052
	Spica	W.	38 30 58	3051	40 0 8	3043	41 29 28	3034	42 58 58	3026
	α Aquilæ	E.	64 38 33	4115	63 28 46	4137	62 19 20	4161	61 10 17	4188
	MARS	E.	66 17 46	3007	64 47 42	3001	63 17 31	2995	61 47 12	2988
30	SUN	W.	94 51 2	3338	96 14 29	3327	97 38 9	3316	99 2 2	3304
	SATURN	W.	72 53 11	3006	74 23 16	2996	75 53 34	2985	77 24 6	2974
	Spica	W.	50 29 19	2977	51 59 59	2966	53 30 54	2955	55 2 3	2943
	α Aquilæ	E.	55 32 3	4359	54 26 5	4404	53 20 47	4453	52 16 13	4507
	MARS	E.	54 13 13	2946	52 41 53	2936	51 10 20	2926	49 38 34	2916
31	SUN	W.	106 5 9	3237	107 30 34	3222	108 56 17	3208	110 22 17	3192
	Spica	W.	62 41 40	2680	64 14 25	2666	65 47 28	2652	67 20 49	2638
	MARS	E.	41 56 14	2857	40 23 0	2845	38 49 30	2831	37 15 42	2818
	α Aquilæ	E.	47 6 47	4870	46 8 8	4909	45 10 48	5076	44 14 52	5198

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	N. [°] ['] ^{''}	^{''}	['] ^{''}	^s	^m ^s	^s
Thur.	1	10 44 8.33	9.061	N. 8 1 34.7	-54.68	15 53.81	64.38	0 18.11	0.793
Frid.	2	10 47 45.64	9.049	7 39 38.5	54.99	15 54.05	64.34	0 37.31	0.805
Sat.	3	10 51 22.66	9.037	7 17 35.0	55.29	15 54.29	64.30	0 56.79	0.817
SUN.	4	10 54 59.42	9.027	6 55 24.5	-55.58	15 54.53	64.26	1 16.54	0.827
Mon.	5	10 58 35.94	9.017	6 33 7.3	55.85	15 54.78	64.23	1 36.52	0.837
Tues.	6	11 2 12.24	9.009	6 10 43.7	56.11	15 55.02	64.20	1 56.72	0.845
Wed.	7	11 5 48.35	9.001	5 48 13.9	-56.37	15 55.27	64.18	2 17.10	0.853
Thur.	8	11 9 24.29	8.995	5 25 38.3	56.61	15 55.51	64.15	2 37.65	0.859
Frid.	9	11 13 0.07	8.989	5 2 57.2	56.82	15 55.76	64.13	2 58.36	0.865
Sat.	10	11 16 35.73	8.984	4 40 10.9	-57.03	15 56.00	64.11	3 19.21	0.870
SUN.	11	11 20 11.28	8.980	4 17 19.7	57.23	15 56.25	64.09	3 40.16	0.874
Mon.	12	11 23 46.74	8.977	3 54 23.9	57.41	15 56.50	64.07	4 1.20	0.877
Tues.	13	11 27 22.13	8.974	3 31 23.8	-57.58	15 56.75	64.06	4 22.29	0.880
Wed.	14	11 30 57.49	8.973	3 8 19.7	57.74	15 57.00	64.05	4 43.42	0.881
Thur.	15	11 34 32.82	8.972	2 45 12.0	57.88	15 57.26	64.05	5 4.59	0.882
Frid.	16	11 38 8.14	8.973	2 22 1.0	-58.01	15 57.52	64.05	5 25.78	0.881
Sat.	17	11 41 43.47	8.973	1 58 47.0	58.13	15 57.78	64.05	5 46.94	0.881
SUN.	18	11 45 18.84	8.975	1 35 30.3	58.24	15 58.04	64.06	6 8.07	0.879
Mon.	19	11 48 54.25	8.977	1 12 11.3	-58.33	15 58.30	64.07	6 29.16	0.877
Tues.	20	11 52 29.73	8.980	0 48 50.4	58.40	15 58.57	64.08	6 50.18	0.874
Wed.	21	11 56 5.29	8.984	0 25 28.0	58.46	15 58.84	64.09	7 11.11	0.870
Thur.	22	11 59 40.96	8.988	N. 0 2 4.5	-58.50	15 59.11	64.10	7 31.93	0.865
Frid.	23	12 3 16.74	8.994	S. 0 21 19.9	58.52	15 59.38	64.12	7 52.64	0.860
Sat.	24	12 6 52.65	9.000	0 44 44.8	58.53	15 59.66	64.14	8 13.23	0.854
SUN.	25	12 10 28.70	9.006	1 8 9.8	-58.52	15 59.94	64.17	8 33.67	0.847
Mon.	26	12 14 4.93	9.014	1 31 34.4	58.50	16 0.22	64.20	8 53.95	0.840
Tues.	27	12 17 41.35	9.022	1 54 58.4	58.48	16 0.50	64.23	9 14.03	0.832
Wed.	28	12 21 17.98	9.031	2 18 21.4	-58.43	16 0.78	64.26	9 33.90	0.823
Thur.	29	12 24 54.84	9.041	2 41 42.9	58.36	16 1.06	64.30	9 53.54	0.813
Frid.	30	12 28 31.94	9.052	3 5 2.7	58.28	16 1.34	64.34	10 12.93	0.802
Sat.	31	12 32 9.31	9.063	S. 3 28 20.4	-58.18	16 1.63	64.38	10 32.07	0.791

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing; south declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	N. [°] ['] [″]	[″]			
Thur.	1	10 44 8.38	9.063	N. 8 1 34.3	-54.69	0 18.11	0.793	10 44 26.49
Frid.	2	10 47 45.73	9.051	7 39 37.8	55.00	0 37.31	0.805	10 48 23.05
Sat.	3	10 51 22.80	9.039	7 17 34.0	55.30	0 56.80	0.817	10 52 19.60
SUN.	4	10 54 59.61	9.029	6 55 23.2	-55.59	1 16.55	0.827	10 56 16.16
Mon.	5	10 58 36.18	9.019	6 33 5.7	55.86	1 36.54	0.837	11 0 12.71
Tues.	6	11 2 12.53	9.011	6 10 41.8	56.12	1 56.74	0.845	11 4 9.27
Wed.	7	11 5 48.69	9.003	5 48 11.7	-56.38	2 17.13	0.853	11 8 5.82
Thur.	8	11 9 24.68	8.997	5 25 35.8	56.62	2 37.69	0.859	11 12 2.37
Frid.	9	11 13 0.52	8.991	5 2 54.4	56.83	2 58.40	0.865	11 15 58.92
Sat.	10	11 16 36.23	8.986	4 40 7.8	-57.04	3 19.25	0.870	11 19 55.48
SUN.	11	11 20 11.83	8.982	4 17 16.3	57.25	3 40.21	0.874	11 23 52.03
Mon.	12	11 23 47.34	8.979	3 54 20.1	57.43	4 1.25	0.877	11 27 48.59
Tues.	13	11 27 22.79	8.976	3 31 19.6	-57.60	4 22.35	0.880	11 31 45.14
Wed.	14	11 30 58.20	8.975	3 8 15.2	57.76	4 43.49	0.881	11 35 41.69
Thur.	15	11 34 33.58	8.974	2 45 7.2	57.90	5 4.66	0.882	11 39 38.24
Frid.	16	11 38 8.95	8.975	2 21 55.8	-58.03	5 25.85	0.882	11 43 34.80
Sat.	17	11 41 44.34	8.976	1 58 41.4	58.15	5 47.02	0.881	11 47 31.35
SUN.	18	11 45 19.76	8.977	1 35 24.4	58.26	6 8.15	0.879	11 51 27.91
Mon.	19	11 48 55.22	8.979	1 12 5.1	-58.35	6 29.24	0.877	11 55 24.46
Tues.	20	11 52 30.75	8.982	0 48 43.8	58.42	6 50.27	0.874	11 59 21.01
Wed.	21	11 56 6.37	8.986	0 25 21.0	58.48	7 11.20	0.870	12 3 17.56
Thur.	22	11 59 42.09	8.991	N. 0 1 57.1	-58.52	7 32.03	0.865	12 7 14.12
Frid.	23	12 3 17.92	8.996	S. 0 21 27.7	58.54	7 52.75	0.860	12 11 10.67
Sat.	24	12 6 53.88	9.002	0 44 52.9	58.55	8 13.35	0.854	12 15 7.23
SUN.	25	12 10 29.99	9.008	1 8 18.2	-58.54	8 33.79	0.847	12 19 3.78
Mon.	26	12 14 6.27	9.016	1 31 43.1	58.52	8 54.07	0.840	12 23 0.34
Tues.	27	12 17 42.74	9.024	1 55 7.4	58.50	9 14.15	0.832	12 26 56.89
Wed.	28	12 21 19.42	9.033	2 18 30.7	-58.45	9 34.02	0.823	12 30 53.44
Thur.	29	12 24 56.33	9.043	2 41 52.5	58.38	9 53.66	0.813	12 34 49.99
Frid.	30	12 28 33.48	9.054	3 5 12.6	58.30	10 13.06	0.802	12 38 46.55
Sat.	31	12 32 10.90	9.065	S. 3 28 30.6	-58.19	10 32.20	0.791	12 42 43.10

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing; south declinations, increasing.

Diff. for 1 Hour,
+9^s.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE			
		λ .	λ'					
1	245	159° 28' 11.2	27° 47.9	145.29	— 0.32	0.0037124	—45.2	^h 13 ^m 13 ^s 23.18
2	246	160 26 19.0	25 55.6	145.35	0.38	0.0036035	45.5	13 9 27.27
3	247	161 24 28.2	24 4.7	145.41	0.41	0.0034939	45.8	13 5 31.36
4	248	162 22 39.0	22 15.4	145.48	— 0.40	0.0033837	—46.0	13 1 35.45
5	249	163 20 51.4	20 27.7	145.55	0.37	0.0032731	46.2	12 57 39.54
6	250	164 19 5.5	18 41.7	145.62	0.31	0.0031620	46.4	12 53 43.63
7	251	165 17 21.3	16 57.4	145.69	— 0.23	0.0030505	—46.6	12 49 47.72
8	252	166 15 39.0	15 14.9	145.77	— 0.12	0.0029386	46.7	12 45 51.82
9	253	167 13 58.7	13 34.5	145.85	0.00	0.0028264	46.8	12 41 55.91
10	254	168 12 20.4	11 56.1	145.93	+ 0.13	0.0027138	—47.0	12 38 0.00
11	255	169 10 44.2	10 19.8	146.02	0.27	0.0026008	47.2	12 34 4.10
12	256	170 9 10.1	8 45.6	146.11	0.40	0.0024874	47.4	12 30 8.19
13	257	171 7 38.1	7 13.5	146.20	+ 0.52	0.0023734	—47.7	12 26 12.28
14	258	172 6 8.2	5 43.5	146.30	0.62	0.0022587	48.0	12 22 16.37
15	259	173 4 40.5	4 15.7	146.40	0.69	0.0021432	48.3	12 18 20.46
16	260	174 3 15.1	2 50.2	146.49	+ 0.73	0.0020268	—48.7	12 14 24.56
17	261	175 1 51.9	1 26.9	146.58	0.75	0.0019095	49.1	12 10 28.65
18	262	176 0 30.8	0 5.6	146.67	0.74	0.0017912	49.5	12 6 32.74
19	263	176 59 11.8	58 46.5	146.75	+ 0.69	0.0016718	—50.0	12 2 36.84
20	264	177 57 54.9	57 29.5	146.84	0.62	0.0015513	50.4	11 58 40.93
21	265	178 56 40.1	56 14.6	146.92	0.52	0.0014296	50.9	11 54 45.02
22	266	179 55 27.3	55 1.7	147.00	+ 0.40	0.0013068	—51.4	11 50 49.11
23	267	180 54 16.4	53 50.7	147.08	0.28	0.0011830	51.8	11 46 53.21
24	268	181 53 7.3	52 41.5	147.16	0.15	0.0010582	52.2	11 42 57.30
25	269	182 52 0.1	51 34.2	147.24	+ 0.02	0.0009325	—52.5	11 39 1.39
26	270	183 50 54.7	50 28.7	147.32	— 0.11	0.0008062	52.8	11 35 5.48
27	271	184 49 51.1	49 25.0	147.39	0.22	0.0006793	53.0	11 31 9.57
28	272	185 48 49.2	48 22.9	147.47	— 0.31	0.0005519	—53.1	11 27 13.67
29	273	186 47 49.0	47 22.6	147.54	0.37	0.0004242	53.2	11 23 17.76
30	274	187 46 50.6	46 24.1	147.61	0.40	0.0002965	53.2	11 19 21.85
31	275	188 45 54.0	45 27.4	147.68	— 0.40	0.0001688	—53.2	11 15 25.95
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 1 st .								
								Diff. for 1 Hour, — 9 ^m . 22.96. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	THE MOON'S								
	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15 13.8	15 19.9	55 47.1	+1.78	56 9.3	+1.91	7 38.3	2.29	10.0
2	15 26.3	15 33.1	56 33.0	2.02	56 57.8	2.11	8 34.2	2.33	11.0
3	15 40.1	15 47.1	57 23.5	2.15	57 49.4	2.15	9 30.4	2.33	12.0
4	15 54.1	16 0.9	58 15.1	+2.11	58 39.9	+2.01	10 25.6	2.26	13.0
5	16 7.2	16 13.1	59 3.3	1.87	59 24.8	1.69	11 19.1	2.18	14.0
6	16 18.3	16 22.7	59 43.8	1.46	59 59.8	1.20	12 10.7	2.12	15.0
7	16 26.1	16 28.6	60 12.5	+0.91	60 21.6	+0.60	13 1.2	2.09	16.0
8	16 30.0	16 30.4	60 26.9	+0.29	60 28.4	-0.03	13 51.5	2.10	17.0
9	16 29.8	16 28.4	60 26.3	-0.32	60 20.8	0.59	14 42.9	2.17	18.0
10	16 26.0	16 22.9	60 12.2	-0.84	60 0.8	-1.05	15 36.4	2.27	19.0
11	16 19.2	16 15.0	59 47.1	1.22	59 31.6	1.35	16 32.5	2.38	20.0
12	16 10.4	16 5.5	59 14.8	1.45	58 56.9	1.52	17 31.1	2.47	21.0
13	16 0.5	15 55.3	58 38.4	-1.56	58 19.5	-1.57	18 31.0	2.48	22.0
14	15 50.2	15 45.1	58 0.7	1.56	57 42.1	1.54	19 30.1	2.41	23.0
15	15 40.2	15 35.3	57 23.8	1.51	57 6.0	1.46	20 26.7	2.27	24.0
16	15 30.6	15 26.1	56 48.8	-1.41	56 32.2	-1.36	21 19.5	2.11	25.0
17	15 21.8	15 17.6	56 16.3	1.30	56 1.1	1.25	22 8.2	1.95	26.0
18	15 13.7	15 9.9	55 46.5	1.19	55 32.7	1.13	22 53.3	1.81	27.0
19	15 6.3	15 2.9	55 19.5	-1.07	55 7.1	-1.00	23 35.6	1.72	28.0
20	14 59.8	14 56.9	54 55.5	0.94	54 44.8	0.86	δ		29.0
21	14 54.2	14 51.8	54 35.0	0.78	54 26.2	0.69	0 16.2	1.68	0.5
22	14 49.7	14 48.0	54 18.5	-0.59	54 12.1	-0.48	0 56.1	1.65	1.5
23	14 46.6	14 45.6	54 7.1	0.36	54 3.6	-0.23	1 36.2	1.68	2.5
24	14 45.1	14 45.1	54 1.7	-0.08	54 1.7	+0.08	2 17.6	1.76	3.5
25	14 45.6	14 46.7	54 3.6	+0.25	54 7.6	+0.43	3 1.0	1.86	4.5
26	14 48.4	14 50.7	54 13.8	0.62	54 22.3	0.81	3 47.0	1.98	5.5
27	14 53.7	14 57.3	54 33.2	1.01	54 46.5	1.21	4 36.1	2.10	6.5
28	15 1.6	15 6.5	55 2.2	+1.41	55 20.3	+1.61	5 28.0	2.21	7.5
29	15 12.1	15 18.3	55 40.8	1.80	56 3.4	1.97	6 22.0	2.27	8.5
30	15 24.9	15 32.1	56 27.9	2.11	56 54.1	2.25	7 16.8	2.28	9.5
31	15 39.6	15 47.3	57 21.7	+2.34	57 50.1	+2.39	8 11.2	2.24	10.5

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 1.					SATURDAY 3.				
0	18 5 58.70	2.3519	S. 27° 26' 4.1"	1.415	0	20 1 22.66	2.4193	S. 25° 36' 8.2"	6.087
1	18 8 19.92	2.3555	27 27 24.6	1.368	1	20 3 47.79	2.4183	25 29 58.3	6.344
2	18 10 41.36	2.3591	27 28 36.2	1.120	2	20 6 12.86	2.4173	25 23 38.9	6.401
3	18 13 3.01	2.3625	27 29 39.0	0.972	3	20 8 37.87	2.4162	25 17 10.1	6.558
4	18 15 24.86	2.3658	27 30 32.8	0.823	4	20 11 2.81	2.4150	25 10 31.9	6.714
5	18 17 46.90	2.3690	27 31 17.7	0.673	5	20 13 27.67	2.4138	25 3 44.4	6.870
6	18 20 9.14	2.3722	27 31 53.6	0.523	6	20 15 52.46	2.4125	24 56 47.5	7.026
7	18 22 31.56	2.3753	27 32 20.5	0.373	7	20 18 17.17	2.4110	24 49 41.3	7.181
8	18 24 54.17	2.3783	27 32 38.3	0.221	8	20 20 41.78	2.4094	24 42 25.8	7.335
9	18 27 16.96	2.3812	27 32 47.0	- 0.068	9	20 23 6.30	2.4079	24 35 1.1	7.489
10	18 29 39.92	2.3841	27 32 46.5	+ 0.084	10	20 25 30.73	2.4062	24 27 27.1	7.643
11	18 32 3.05	2.3867	27 32 36.9	0.237	11	20 27 55.05	2.4045	24 19 43.9	7.796
12	18 34 26.33	2.3893	27 32 18.1	0.390	12	20 30 19.27	2.4027	24 11 51.6	7.948
13	18 36 49.77	2.3919	27 31 50.1	0.544	13	20 32 43.38	2.4008	24 3 50.2	8.099
14	18 39 13.36	2.3943	27 31 12.8	0.699	14	20 35 7.37	2.3988	23 55 39.7	8.251
15	18 41 37.09	2.3967	27 30 26.2	0.854	15	20 37 31.24	2.3968	23 47 20.1	8.402
16	18 44 0.96	2.3990	27 29 30.3	1.010	16	20 39 54.99	2.3948	23 38 51.5	8.551
17	18 46 24.97	2.4012	27 28 25.0	1.166	17	20 42 18.62	2.3927	23 30 14.0	8.700
18	18 48 49.11	2.4033	27 27 10.4	1.322	18	20 44 42.12	2.3905	23 21 27.5	8.848
19	18 51 13.37	2.4052	27 25 46.4	1.479	19	20 47 5.48	2.3882	23 12 32.2	8.995
20	18 53 37.74	2.4071	27 24 13.0	1.636	20	20 49 28.71	2.3860	23 3 28.1	9.142
21	18 56 2.22	2.4088	27 22 30.1	1.793	21	20 51 51.80	2.3837	22 54 15.1	9.289
22	18 58 26.80	2.4105	27 20 37.8	1.951	22	20 54 14.75	2.3812	22 44 53.4	9.434
23	19 0 51.48	2.4121	S. 27° 18' 36.0"	2.108	23	20 56 37.55	2.3787	S. 22° 35' 23.1"	9.578
FRIDAY 2.					SUNDAY 4.				
0	19 3 16.25	2.4135	S. 27° 16' 24.8"	2.266	0	20 59 0.20	2.3762	S. 22° 25' 44.1"	9.722
1	19 5 41.10	2.4149	27 14 4.1	2.425	1	21 1 22.70	2.3737	22 15 56.5	9.864
2	19 8 6.04	2.4162	27 11 33.8	2.584	2	21 3 45.05	2.3712	22 6 0.4	10.006
3	19 10 31.05	2.4174	27 8 54.0	2.743	3	21 6 7.24	2.3685	21 55 55.8	10.147
4	19 12 56.13	2.4185	27 6 4.7	2.902	4	21 8 29.27	2.3658	21 45 42.8	10.287
5	19 15 21.27	2.4194	27 3 5.8	3.062	5	21 10 51.14	2.3631	21 35 21.4	10.425
6	19 17 46.46	2.4203	26 59 57.3	3.221	6	21 13 12.85	2.3604	21 24 51.8	10.563
7	19 20 11.70	2.4211	26 56 39.3	3.380	7	21 15 34.39	2.3576	21 14 13.9	10.700
8	19 22 36.99	2.4217	26 53 11.7	3.540	8	21 17 55.76	2.3548	21 3 27.8	10.837
9	19 25 2.31	2.4222	26 49 34.5	3.700	9	21 20 16.97	2.3520	20 52 33.5	10.972
10	19 27 27.66	2.4227	26 45 47.7	3.860	10	21 22 38.00	2.3491	20 41 31.2	11.105
11	19 29 53.04	2.4232	26 41 51.3	4.019	11	21 24 58.86	2.3462	20 30 20.9	11.237
12	19 32 18.45	2.4236	26 37 45.4	4.178	12	21 27 19.54	2.3432	20 19 2.7	11.369
13	19 34 43.87	2.4237	26 33 29.9	4.338	13	21 29 40.05	2.3403	20 7 36.6	11.500
14	19 37 9.29	2.4237	26 29 4.8	4.498	14	21 32 0.38	2.3373	19 56 2.7	11.632
15	19 39 34.71	2.4237	26 24 30.1	4.658	15	21 34 20.53	2.3343	19 44 21.1	11.757
16	19 42 0.13	2.4236	26 19 45.8	4.817	16	21 36 40.50	2.3314	19 32 31.9	11.884
17	19 44 25.54	2.4233	26 14 52.0	4.977	17	21 39 0.30	2.3285	19 20 35.1	12.010
18	19 46 50.93	2.4230	26 9 48.6	5.136	18	21 41 19.92	2.3255	19 8 30.7	12.135
19	19 49 16.30	2.4227	26 4 35.7	5.295	19	21 43 39.36	2.3224	18 56 18.9	12.258
20	19 51 41.65	2.4222	25 59 13.2	5.454	20	21 45 58.61	2.3193	18 43 59.8	12.380
21	19 54 6.96	2.4216	25 53 41.2	5.612	21	21 48 17.68	2.3163	18 31 33.3	12.502
22	19 56 32.24	2.4210	25 47 59.7	5.771	22	21 50 36.57	2.3133	18 18 59.6	12.621
23	19 58 57.48	2.4202	25 42 8.7	5.929	23	21 52 55.28	2.3103	18 6 18.8	12.739
24	20 1 22.66	2.4193	S. 25° 36' 8.2"	6.087	24	21 55 13.81	2.3073	S. 17° 53' 30.9"	12.857

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 5.					WEDNESDAY 7.				
0	^h 21 ^m 55 ^s 13.81	2.3073	S. 17° 53' 30.9"	12.857	0	^h 23 ^m 42 ^s 54.88	2.1952	S. 5° 49' 25.2"	16.702
1	21 57 32.16	2.3042	17 40 36.0	12.972	1	23 45 6.56	2.1942	5 32 41.9	16.741
2	21 59 50.32	2.3012	17 27 34.2	13.066	2	23 47 18.18	2.1932	5 15 56.3	16.778
3	22 2 8.30	2.2982	17 14 25.7	13.199	3	23 49 29.74	2.1922	4 59 8.5	16.814
4	22 4 26.10	2.2952	17 1 10.4	13.311	4	23 51 41.24	2.1913	4 42 18.6	16.848
5	22 6 43.72	2.2922	16 47 48.4	13.422	5	23 53 52.69	2.1905	4 25 26.7	16.881
6	22 9 1.16	2.2892	16 34 19.8	13.531	6	23 56 4.10	2.1897	4 8 32.9	16.911
7	22 11 18.42	2.2862	16 20 44.7	13.638	7	23 58 15.46	2.1891	3 51 37.4	16.939
8	22 13 35.50	2.2832	16 7 3.2	13.743	8	0 0 26.79	2.1885	3 34 40.2	16.967
9	22 15 52.41	2.2803	15 53 15.5	13.848	9	0 2 38.08	2.1879	3 17 41.4	16.992
10	22 18 9.14	2.2774	15 39 21.5	13.952	10	0 4 49.34	2.1874	3 0 41.2	17.015
11	22 20 25.70	2.2745	15 25 21.3	14.053	11	0 7 0.57	2.1870	2 43 39.6	17.037
12	22 22 42.08	2.2716	15 11 15.1	14.153	12	0 9 11.78	2.1867	2 26 36.8	17.056
13	22 24 58.29	2.2687	14 57 2.9	14.252	13	0 11 22.97	2.1864	2 9 32.9	17.073
14	22 27 14.33	2.2659	14 42 44.8	14.350	14	0 13 34.15	2.1862	1 52 28.0	17.089
15	22 29 30.20	2.2632	14 28 20.9	14.446	15	0 15 45.32	2.1862	1 35 22.2	17.103
16	22 31 45.91	2.2604	14 13 51.3	14.540	16	0 17 56.49	2.1862	1 18 15.6	17.116
17	22 34 1.45	2.2576	13 59 16.1	14.632	17	0 20 7.66	2.1862	1 1 8.3	17.127
18	22 36 16.82	2.2548	13 44 35.4	14.723	18	0 22 18.83	2.1863	0 44 0.4	17.136
19	22 38 32.03	2.2522	13 29 49.3	14.813	19	0 24 30.01	2.1865	0 26 52.0	17.142
20	22 40 47.09	2.2496	13 14 57.8	14.902	20	0 26 41.21	2.1868	S. 0 9 43.3	17.147
21	22 43 1.99	2.2470	13 0 1.1	14.988	21	0 28 52.43	2.1872	N. 0 7 25.6	17.150
22	22 45 16.73	2.2444	12 44 59.2	15.073	22	0 31 3.67	2.1875	0 24 34.7	17.152
23	22 47 31.32	2.2419	S. 12 29 52.3	15.157	23	0 33 14.93	2.1879	N. 0 41 43.8	17.151
TUESDAY 6.					THURSDAY 8.				
0	22 49 45.76	2.2394	S. 12 14 40.4	15.238	0	0 35 26.22	2.1885	N. 0 58 52.8	17.149
1	22 52 0.05	2.2370	11 59 23.7	15.318	1	0 37 37.55	2.1892	1 16 1.7	17.145
2	22 54 14.20	2.2347	11 44 2.2	15.397	2	0 39 48.92	2.1899	1 33 10.2	17.138
3	22 56 28.21	2.2323	11 28 36.0	15.475	3	0 42 0.34	2.1907	1 50 18.3	17.131
4	22 58 42.08	2.2300	11 13 5.2	15.550	4	0 44 11.81	2.1916	2 7 25.9	17.122
5	23 0 55.81	2.2277	10 57 30.0	15.623	5	0 46 23.33	2.1925	2 24 32.9	17.110
6	23 3 9.40	2.2254	10 41 50.4	15.696	6	0 48 34.91	2.1935	2 41 39.1	17.097
7	23 5 22.86	2.2233	10 26 6.5	15.766	7	0 50 46.55	2.1946	2 58 44.5	17.082
8	23 7 36.20	2.2212	10 10 18.5	15.834	8	0 52 58.26	2.1958	3 15 49.0	17.068
9	23 9 49.41	2.2192	9 54 26.4	15.902	9	0 55 10.05	2.1971	3 32 52.3	17.045
10	23 12 2.50	2.2172	9 38 30.3	15.967	10	0 57 21.91	2.1984	3 49 54.4	17.025
11	23 14 15.47	2.2153	9 22 30.3	16.031	11	0 59 33.85	2.1997	4 6 55.3	17.003
12	23 16 28.33	2.2134	9 6 26.6	16.093	12	1 1 45.88	2.2012	4 23 54.8	16.979
13	23 18 41.08	2.2115	8 50 19.2	16.153	13	1 3 58.00	2.2028	4 40 52.8	16.952
14	23 20 53.71	2.2097	8 34 8.2	16.212	14	1 6 10.22	2.2044	4 57 49.1	16.924
15	23 23 6.24	2.2080	8 17 53.8	16.268	15	1 8 22.53	2.2060	5 14 43.7	16.895
16	23 25 18.67	2.2063	8 1 36.0	16.324	16	1 10 34.94	2.2078	5 31 36.5	16.863
17	23 27 31.00	2.2047	7 45 14.9	16.377	17	1 12 47.46	2.2097	5 48 27.3	16.829
18	23 29 43.23	2.2031	7 28 50.7	16.429	18	1 15 0.10	2.2117	6 5 16.0	16.794
19	23 31 55.37	2.2017	7 12 23.4	16.479	19	1 17 12.86	2.2136	6 22 2.6	16.757
20	23 34 7.43	2.2003	6 55 53.2	16.527	20	1 19 25.73	2.2155	6 38 46.9	16.718
21	23 36 19.41	2.1990	6 39 20.2	16.573	21	1 21 38.72	2.2176	6 55 28.8	16.677
22	23 38 31.31	2.1977	6 22 44.5	16.618	22	1 23 51.84	2.2198	7 12 8.2	16.635
23	23 40 43.13	2.1964	6 6 6.1	16.661	23	1 26 5.10	2.2221	7 28 45.0	16.591
24	23 42 54.88	2.1952	S. 5 49 25.2	16.702	24	1 28 18.50	2.2245	N. 7 45 19.1	16.545

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 9.					SUNDAY 11.				
0	1 ^h 28 ^m 18.50 ^s	2.2945	N. 7° 45' 19.1"	16.545	0	3 ^h 18 ^m 52.06 ^s	2.3983	N. 19° 32' 48.8"	12.287
1	1 30 32.04	2.2969	8 1 50.4	16.497	1	3 21 16.09	2.4027	19 45 2.2	12.158
2	1 32 45.73	2.2993	8 18 18.7	16.447	2	3 23 40.38	2.4070	19 57 7.8	12.027
3	1 34 59.56	2.3218	8 34 44.0	16.395	3	3 26 4.93	2.4112	20 9 5.5	11.896
4	1 37 13.55	2.2345	8 51 6.1	16.342	4	3 28 29.73	2.4155	20 20 55.3	11.764
5	1 39 27.70	2.2372	9 7 25.0	16.287	5	3 30 54.79	2.4198	20 32 37.2	11.631
6	1 41 42.01	2.2399	9 23 40.5	16.229	6	3 33 20.11	2.4241	20 44 11.0	11.495
7	1 43 56.48	2.2427	9 39 52.5	16.171	7	3 35 45.68	2.4283	20 55 36.6	11.358
8	1 46 11.13	2.2456	9 56 1.0	16.110	8	3 38 11.50	2.4325	21 6 54.0	11.220
9	1 48 25.95	2.2484	10 12 5.7	16.047	9	3 40 37.58	2.4367	21 18 3.0	11.080
10	1 50 40.94	2.2514	10 28 6.6	15.983	10	3 43 3.91	2.4409	21 29 3.6	10.939
11	1 52 56.12	2.2545	10 44 3.7	15.918	11	3 45 30.49	2.4451	21 39 55.7	10.798
12	1 55 11.48	2.2576	10 59 56.8	15.851	12	3 47 57.32	2.4492	21 50 39.3	10.655
13	1 57 27.03	2.2608	11 15 45.8	15.781	13	3 50 24.40	2.4533	22 1 14.3	10.510
14	1 59 42.77	2.2640	11 31 30.5	15.709	14	3 52 51.72	2.4573	22 11 40.5	10.363
15	2 1 58.71	2.2672	11 47 10.9	15.637	15	3 55 19.28	2.4613	22 21 57.9	10.216
16	2 4 14.84	2.2706	12 2 46.9	15.562	16	3 57 47.08	2.4653	22 32 6.4	10.067
17	2 6 31.18	2.2740	12 18 18.3	15.485	17	4 0 15.12	2.4693	22 42 6.0	9.918
18	2 8 47.72	2.2774	12 33 45.1	15.407	18	4 2 43.39	2.4732	22 51 56.6	9.767
19	2 11 4.47	2.2809	12 49 7.2	15.327	19	4 5 11.90	2.4770	23 1 38.1	9.616
20	2 13 21.43	2.2845	13 4 24.4	15.246	20	4 7 40.63	2.4808	23 11 10.5	9.462
21	2 15 38.61	2.2881	13 19 36.7	15.162	21	4 10 9.59	2.4846	23 20 33.6	9.308
22	2 17 56.00	2.2918	13 34 43.9	15.077	22	4 12 38.78	2.4882	23 29 47.4	9.153
23	2 20 13.62	2.2955	N. 13° 49' 46.0"	14.991	23	4 15 8.18	2.4918	N. 23° 38' 51.9"	8.997
SATURDAY 10.					MONDAY 12.				
0	2 22 31.46	2.3092	N. 14° 4 42.8"	14.902	0	4 17 37.80	2.4954	N. 23° 47' 47.0"	8.839
1	2 24 49.53	2.3030	14 19 34.2	14.812	1	4 20 7.63	2.4989	23 56 32.6	8.681
2	2 27 7.82	2.3068	14 34 20.2	14.720	2	4 22 37.67	2.5023	24 5 8.7	8.522
3	2 29 26.34	2.3107	14 49 0.6	14.626	3	4 25 7.91	2.5057	24 13 35.2	8.362
4	2 31 45.10	2.3146	15 3 35.3	14.531	4	4 27 38.35	2.5090	24 21 52.1	8.200
5	2 34 4.09	2.3185	15 18 4.3	14.434	5	4 30 8.99	2.5122	24 29 59.2	8.037
6	2 36 23.32	2.3225	15 32 27.4	14.335	6	4 32 39.82	2.5154	24 37 56.5	7.873
7	2 38 42.79	2.3265	15 46 44.5	14.235	7	4 35 10.84	2.5184	24 45 44.0	7.709
8	2 41 2.50	2.3306	16 0 55.6	14.133	8	4 37 42.03	2.5213	24 53 21.6	7.545
9	2 43 22.46	2.3347	16 15 0.5	14.029	9	4 40 13.40	2.5242	25 0 49.4	7.380
10	2 45 42.66	2.3388	16 28 59.1	13.924	10	4 42 44.94	2.5270	25 8 7.2	7.213
11	2 48 3.11	2.3429	16 42 51.4	13.817	11	4 45 16.64	2.5298	25 15 14.9	7.045
12	2 50 23.81	2.3471	16 56 37.2	13.708	12	4 47 48.51	2.5325	25 22 12.6	6.877
13	2 52 44.76	2.3513	17 10 16.4	13.598	13	4 50 20.54	2.5350	25 29 0.2	6.708
14	2 55 5.96	2.3555	17 23 49.0	13.487	14	4 52 52.71	2.5374	25 35 37.6	6.538
15	2 57 27.42	2.3597	17 37 14.9	13.374	15	4 55 25.02	2.5397	25 42 4.8	6.368
16	2 59 49.13	2.3639	17 50 33.9	13.259	16	4 57 57.47	2.5419	25 48 21.8	6.197
17	3 2 11.09	2.3682	18 3 46.0	13.143	17	5 0 30.05	2.5441	25 54 28.5	6.026
18	3 4 33.31	2.3725	18 16 51.1	13.026	18	5 3 2.76	2.5461	26 0 24.9	5.854
19	3 6 55.79	2.3768	18 29 49.1	12.906	19	5 5 35.58	2.5480	26 6 11.0	5.682
20	3 9 18.53	2.3811	18 42 39.8	12.784	20	5 8 8.52	2.5499	26 11 46.7	5.508
21	3 11 41.52	2.3854	18 55 23.2	12.662	21	5 10 41.57	2.5517	26 17 12.0	5.334
22	3 14 4.78	2.3897	19 7 59.2	12.538	22	5 13 14.72	2.5532	26 22 26.8	5.160
23	3 16 28.29	2.3940	19 20 27.8	12.413	23	5 15 47.96	2.5547	26 27 31.2	4.986
24	3 18 52.06	2.3983	N. 19° 32' 48.8"	12.287	24	5 18 21.28	2.5560	N. 26° 32' 25.1"	4.811

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 13.					THURSDAY 15.				
0	5 ^h 18 ^m 21.28 ^s	2.5580	N. 26° 32' 25.1"	4.811	0	7 ^h 20 ^m 13.03 ^s	2.4733	N. 27° 1' 13.3"	3.480
1	5 20 54.68	2.5579	26 37 8.5	4.836	1	7 22 41.29	2.4687	26 57 39.6	3.640
2	5 23 28.15	2.5584	26 41 41.4	4.400	2	7 25 9.27	2.4640	26 53 56.5	3.797
3	5 26 1.69	2.5594	26 46 3.7	4.983	3	7 27 36.97	2.4592	26 50 4.0	3.954
4	5 28 35.28	2.5603	26 50 15.4	4.107	4	7 30 4.38	2.4543	26 46 2.1	4.110
5	5 31 8.92	2.5611	26 54 16.5	3.931	5	7 32 31.49	2.4493	26 41 50.8	4.265
6	5 33 42.61	2.5617	26 58 7.1	3.754	6	7 34 58.30	2.4443	26 37 30.3	4.419
7	5 36 16.33	2.5622	27 1 47.0	3.577	7	7 37 24.81	2.4391	26 33 0.6	4.573
8	5 38 50.08	2.5626	27 5 16.3	3.399	8	7 39 51.00	2.4339	26 28 21.7	4.728
9	5 41 23.84	2.5628	27 8 34.9	3.222	9	7 42 16.88	2.4287	26 23 33.8	4.873
10	5 43 57.61	2.5629	27 11 42.9	3.045	10	7 44 42.44	2.4233	26 18 36.9	5.023
11	5 46 31.39	2.5630	27 14 40.3	2.867	11	7 47 7.07	2.4178	26 13 31.0	5.172
12	5 49 5.17	2.5628	27 17 27.0	2.690	12	7 49 32.57	2.4123	26 8 16.3	5.319
13	5 51 38.93	2.5626	27 20 3.1	2.519	13	7 51 57.14	2.4067	26 2 52.8	5.465
14	5 54 12.68	2.5622	27 22 28.5	2.334	14	7 54 21.37	2.4010	25 57 20.5	5.610
15	5 56 46.40	2.5617	27 24 43.2	2.157	15	7 56 45.26	2.3953	25 51 39.6	5.753
16	5 59 20.08	2.5610	27 26 47.3	1.980	16	7 59 8.81	2.3896	25 45 50.1	5.896
17	6 1 53.72	2.5602	27 28 40.8	1.802	17	8 1 32.01	2.3837	25 39 52.1	6.037
18	6 4 27.31	2.5593	27 30 23.6	1.625	18	8 3 54.86	2.3778	25 33 45.6	6.177
19	6 7 0.84	2.5583	27 31 55.8	1.448	19	8 6 17.35	2.3719	25 27 30.8	6.316
20	6 9 34.30	2.5571	27 33 17.4	1.272	20	8 8 39.49	2.3660	25 21 7.7	6.454
21	6 12 7.69	2.5557	27 34 28.4	1.095	21	8 11 1.27	2.3599	25 14 36.3	6.591
22	6 14 40.99	2.5543	27 35 26.8	0.919	22	8 13 22.68	2.3538	25 7 56.8	6.726
23	6 17 14.21	2.5528	N. 27° 36' 18.7"	0.743	23	8 15 43.73	2.3477	N. 25° 1' 9.3"	6.859
WEDNESDAY 14.					FRIDAY 16.				
0	6 19 47.33	2.5511	N. 27° 36' 58.0"	0.567	0	8 18 4.41	2.3416	N. 24° 54' 13.7"	6.902
1	6 22 20.34	2.5492	27 37 26.8	0.390	1	8 20 24.72	2.3354	24 47 10.2	7.193
2	6 24 53.24	2.5473	27 37 45.1	0.212	2	8 22 44.66	2.3291	24 39 58.9	7.533
3	6 27 26.01	2.5451	27 37 52.8	+ 0.042	3	8 25 4.22	2.3228	24 32 39.8	7.869
4	6 29 58.65	2.5429	27 37 50.1	- 0.132	4	8 27 23.40	2.3165	24 25 13.0	7.510
5	6 32 31.16	2.5407	27 37 37.0	0.306	5	8 29 42.20	2.3102	24 17 38.6	7.636
6	6 35 3.53	2.5389	27 37 13.4	0.480	6	8 32 0.63	2.3039	24 9 56.7	7.761
7	6 37 35.74	2.5355	27 36 39.4	0.652	7	8 34 18.67	2.2975	24 2 7.3	7.886
8	6 40 7.79	2.5328	27 35 55.1	0.823	8	8 36 36.33	2.2911	23 54 10.5	8.007
9	6 42 39.68	2.5300	27 35 0.6	0.994	9	8 38 53.60	2.2847	23 46 6.5	8.127
10	6 45 11.39	2.5270	27 33 55.8	1.165	10	8 41 10.49	2.2782	23 37 55.2	8.247
11	6 47 42.92	2.5238	27 32 40.8	1.336	11	8 43 26.99	2.2718	23 29 36.8	8.366
12	6 50 14.25	2.5206	27 31 15.5	1.506	12	8 45 43.11	2.2654	23 21 11.3	8.483
13	6 52 45.39	2.5173	27 29 40.1	1.674	13	8 47 58.84	2.2589	23 12 38.8	8.599
14	6 55 16.33	2.5139	27 27 54.6	1.843	14	8 50 14.18	2.2524	23 3 59.4	8.712
15	6 57 47.06	2.5103	27 25 59.0	2.011	15	8 52 29.13	2.2459	22 55 13.3	8.825
16	7 0 17.57	2.5067	27 23 53.3	2.178	16	8 54 43.69	2.2394	22 46 20.4	8.937
17	7 2 47.86	2.5028	27 21 37.7	2.343	17	8 56 57.86	2.2330	22 37 20.8	9.048
18	7 5 17.91	2.4988	27 19 12.2	2.508	18	8 59 11.65	2.2266	22 28 14.6	9.157
19	7 7 47.72	2.4948	27 16 36.8	2.673	19	9 1 25.05	2.2201	22 19 1.9	9.265
20	7 10 17.29	2.4908	27 13 51.5	2.838	20	9 3 38.06	2.2136	22 9 42.8	9.373
21	7 12 46.62	2.4867	27 10 56.5	2.998	21	9 5 50.68	2.2071	22 0 17.3	9.477
22	7 15 15.69	2.4823	27 7 51.8	3.159	22	9 8 2.91	2.2007	21 50 45.6	9.580
23	7 17 44.50	2.4778	27 4 37.4	3.321	23	9 10 14.76	2.1942	21 41 7.7	9.682
24	7 20 13.03	2.4733	N. 27° 1' 13.3"	3.482	24	9 12 26.22	2.1877	N. 21° 31' 23.7"	9.783

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 17.					MONDAY 19.				
0	^h 9 ^m 12 ^s 26.22	2.1877	N. 21° 31' 23.7"	9.783	0	^h 10 ^m 50 ^s 38.23	1.9219	N. 12° 9' 38.4"	13.156
1	9 14 37.29	2.1813	21 21 33.7	9.883	1	10 52 33.37	1.9169	11 56 27.8	13.197
2	9 16 47.98	2.1750	21 11 37.7	9.982	2	10 54 28.26	1.9127	11 43 14.7	13.238
3	9 18 58.29	2.1687	21 1 35.9	10.079	3	10 56 22.89	1.9085	11 29 59.2	13.277
4	9 21 8.22	2.1623	20 51 28.3	10.175	4	10 58 17.28	1.9045	11 16 41.4	13.316
5	9 23 17.77	2.1559	20 41 14.9	10.270	5	11 0 11.43	1.9004	11 3 21.3	13.353
6	9 25 26.93	2.1495	20 30 55.9	10.363	6	11 2 5.33	1.8963	10 49 59.0	13.389
7	9 27 35.71	2.1433	20 20 31.4	10.454	7	11 3 59.00	1.8925	10 36 34.6	13.425
8	9 29 44.12	2.1371	20 10 1.4	10.545	8	11 5 52.44	1.8887	10 23 8.0	13.461
9	9 31 52.16	2.1308	19 59 26.0	10.634	9	11 7 45.64	1.8849	10 9 39.3	13.495
10	9 33 59.82	2.1246	19 48 45.3	10.722	10	11 9 38.62	1.8812	9 56 8.6	13.527
11	9 36 7.11	2.1184	19 37 59.3	10.809	11	11 11 31.38	1.8775	9 42 36.1	13.557
12	9 38 14.03	2.1123	19 27 8.2	10.894	12	11 13 23.92	1.8739	9 29 1.8	13.587
13	9 40 20.58	2.1062	19 16 12.0	10.978	13	11 15 16.25	1.8704	9 15 25.7	13.617
14	9 42 26.77	2.1001	19 5 10.8	11.061	14	11 17 8.37	1.8670	9 1 47.8	13.646
15	9 44 32.59	2.0940	18 54 4.7	11.142	15	11 19 0.29	1.8637	8 48 8.2	13.673
16	9 46 38.05	2.0880	18 42 53.8	11.223	16	11 20 52.01	1.8603	8 34 27.0	13.699
17	9 48 43.15	2.0820	18 31 38.0	11.302	17	11 22 43.53	1.8570	8 20 44.3	13.724
18	9 50 47.89	2.0760	18 20 17.5	11.380	18	11 24 34.85	1.8538	8 7 0.1	13.748
19	9 52 52.27	2.0702	18 8 52.4	11.456	19	11 26 25.98	1.8507	7 53 14.5	13.772
20	9 54 56.31	2.0644	17 57 22.8	11.531	20	11 28 16.93	1.8477	7 39 27.4	13.796
21	9 57 0.00	2.0586	17 45 48.7	11.605	21	11 30 7.70	1.8447	7 25 39.0	13.817
22	9 59 3.34	2.0528	17 34 10.2	11.678	22	11 31 58.29	1.8417	7 11 49.3	13.838
23	10 1 6.34	2.0471	N. 17° 22' 27.3"	11.750	23	11 33 48.71	1.8388	N. 6° 57' 58.4"	13.857
SUNDAY 18.					TUESDAY 20.				
0	10 3 9.00	2.0415	N. 17° 10' 40.2"	11.820	0	11 35 38.95	1.8360	N. 6° 44' 6.4"	13.876
1	10 5 11.32	2.0358	16 58 48.9	11.889	1	11 37 29.03	1.8333	6 30 13.3	13.894
2	10 7 13.30	2.0302	16 46 53.5	11.957	2	11 39 18.95	1.8307	6 16 19.1	13.919
3	10 9 14.95	2.0247	16 34 54.1	12.023	3	11 41 8.71	1.8280	6 2 23.9	13.946
4	10 11 16.27	2.0192	16 22 50.7	12.089	4	11 42 58.31	1.8255	5 48 27.8	13.943
5	10 13 17.26	2.0137	16 10 43.4	12.153	5	11 44 47.77	1.8231	5 34 30.8	13.958
6	10 15 17.92	2.0083	15 58 32.3	12.217	6	11 46 37.08	1.8207	5 20 32.9	13.971
7	10 17 18.26	2.0031	15 46 17.4	12.278	7	11 48 26.25	1.8183	5 6 34.3	13.983
8	10 19 18.29	1.9979	15 33 58.9	12.338	8	11 50 15.28	1.8161	4 52 35.0	13.994
9	10 21 18.01	1.9927	15 21 36.8	12.398	9	11 52 4.18	1.8139	4 38 35.0	14.005
10	10 23 17.42	1.9875	15 9 11.1	12.457	10	11 53 52.95	1.8118	4 24 34.4	14.015
11	10 25 16.51	1.9823	14 56 41.9	12.514	11	11 55 41.59	1.8097	4 10 33.2	14.024
12	10 27 15.29	1.9773	14 44 9.4	12.569	12	11 57 30.11	1.8077	3 56 31.5	14.032
13	10 29 13.78	1.9723	14 31 33.6	12.624	13	11 59 18.51	1.8058	3 42 29.4	14.039
14	10 31 11.97	1.9673	14 18 54.5	12.679	14	12 1 6.80	1.8039	3 28 26.8	14.046
15	10 33 9.86	1.9624	14 6 12.1	12.732	15	12 2 54.98	1.8021	3 14 23.9	14.051
16	10 35 7.46	1.9576	13 53 26.6	12.783	16	12 4 43.05	1.8003	3 0 20.7	14.056
17	10 37 4.78	1.9529	13 40 38.1	12.833	17	12 6 31.02	1.7987	2 46 17.2	14.059
18	10 39 1.81	1.9482	13 27 46.6	12.882	18	12 8 18.89	1.7971	2 32 13.6	14.062
19	10 40 58.56	1.9436	13 14 52.2	12.931	19	12 10 6.67	1.7956	2 18 9.8	14.064
20	10 42 55.04	1.9390	13 1 54.9	12.978	20	12 11 54.36	1.7941	2 4 5.9	14.066
21	10 44 51.24	1.9344	12 48 54.8	13.024	21	12 13 41.96	1.7927	1 50 1.9	14.067
22	10 46 47.17	1.9299	12 35 52.0	13.069	22	12 15 29.48	1.7913	1 35 57.9	14.066
23	10 48 42.83	1.9255	12 22 46.5	13.113	23	12 17 16.92	1.7900	1 21 54.0	14.064
24	10 50 38.23	1.9212	N. 12° 9' 38.4"	13.156	24	12 19 4.28	1.7888	N. 1° 7' 50.2"	14.062

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
WEDNESDAY 21.					FRIDAY 23.				
0	12 19 4.28	1.7888	N. 1° 7' 50.2"	14.069	0	13 44 46.43	1.8063	S. 9° 49' 45.4"	13.042
1	12 20 51.57	1.7877	0 53 46.5	14.000	1	13 46 34.86	1.8092	10 2 46.7	13.009
2	12 22 38.80	1.7867	0 39 43.0	14.056	2	13 48 23.41	1.8101	10 15 45.6	12.962
3	12 24 25.97	1.7857	0 25 39.8	14.051	3	13 50 12.07	1.8120	10 28 42.1	12.921
4	12 26 13.08	1.7847	N. 0 11 36.9	14.046	4	13 52 0.85	1.8141	10 41 36.1	12.878
5	12 28 0.14	1.7838	S. 0 2 25.7	14.040	5	13 53 49.76	1.8169	10 54 27.5	12.835
6	12 29 47.14	1.7829	0 16 27.9	14.033	6	13 55 38.79	1.8183	11 7 16.3	12.791
7	12 31 34.09	1.7822	0 30 29.7	14.026	7	13 57 27.95	1.8205	11 20 2.4	12.747
8	12 33 21.00	1.7816	0 44 31.0	14.017	8	13 59 17.25	1.8228	11 32 45.9	12.709
9	12 35 7.88	1.7810	0 58 31.7	14.007	9	14 1 6.69	1.8252	11 45 26.7	12.657
10	12 36 54.72	1.7804	1 12 31.8	13.997	10	14 2 56.27	1.8276	11 58 4.7	12.610
11	12 38 41.53	1.7799	1 26 31.3	13.987	11	14 4 46.00	1.8300	12 10 39.9	12.562
12	12 40 28.31	1.7795	1 40 30.2	13.976	12	14 6 35.87	1.8324	12 23 12.2	12.514
13	12 42 15.07	1.7792	1 54 28.4	13.969	13	14 8 25.89	1.8350	12 35 41.6	12.465
14	12 44 1.81	1.7789	2 8 25.7	13.948	14	14 10 16.07	1.8377	12 48 8.0	12.415
15	12 45 48.53	1.7786	2 22 22.2	13.934	15	14 12 6.41	1.8403	13 0 31.4	12.365
16	12 47 35.24	1.7785	2 36 17.8	13.919	16	14 13 56.91	1.8430	13 12 51.8	12.314
17	12 49 21.95	1.7784	2 50 12.5	13.904	17	14 15 47.57	1.8458	13 25 9.1	12.261
18	12 51 8.65	1.7783	3 4 6.3	13.888	18	14 17 38.40	1.8486	13 37 23.2	12.208
19	12 52 55.35	1.7783	3 17 59.1	13.871	19	14 19 29.40	1.8514	13 49 34.1	12.155
20	12 54 42.05	1.7784	3 31 50.8	13.853	20	14 21 20.57	1.8543	14 1 41.8	12.109
21	12 56 28.76	1.7786	3 45 41.4	13.834	21	14 23 11.92	1.8573	14 13 46.3	12.047
22	12 58 15.48	1.7788	3 59 30.9	13.815	22	14 25 3.45	1.8604	14 25 47.4	11.990
23	13 0 2.22	1.7791	S. 4 13 19.2	13.794	23	14 26 55.17	1.8635	S. 14 37 45.1	11.933
THURSDAY 22.					SATURDAY 24.				
0	13 1 48.97	1.7794	S. 4 27 6.2	13.773	0	14 28 47.07	1.8666	S. 14 49 39.4	11.876
1	13 3 35.74	1.7798	4 40 52.0	13.752	1	14 30 39.16	1.8698	15 1 30.2	11.818
2	13 5 22.54	1.7803	4 54 36.4	13.729	2	14 32 31.44	1.8730	15 13 17.5	11.759
3	13 7 9.38	1.7809	5 8 19.4	13.705	3	14 34 23.92	1.8763	15 25 1.3	11.700
4	13 8 56.25	1.7815	5 22 1.0	13.681	4	14 36 16.60	1.8797	15 36 41.5	11.639
5	13 10 43.16	1.7821	5 35 41.1	13.657	5	14 38 9.48	1.8830	15 48 18.0	11.577
6	13 12 30.10	1.7828	5 49 19.8	13.632	6	14 40 2.56	1.8864	15 59 50.7	11.514
7	13 14 17.09	1.7836	6 2 56.9	13.605	7	14 41 55.85	1.8899	16 11 19.7	11.451
8	13 16 4.13	1.7845	6 16 32.4	13.577	8	14 43 49.35	1.8934	16 22 44.9	11.388
9	13 17 51.23	1.7854	6 30 6.2	13.549	9	14 45 43.06	1.8970	16 34 6.3	11.324
10	13 19 38.38	1.7863	6 43 38.3	13.521	10	14 47 36.99	1.9006	16 45 23.8	11.258
11	13 21 25.59	1.7873	6 57 8.7	13.492	11	14 49 31.13	1.9042	16 56 37.3	11.192
12	13 23 12.86	1.7884	7 10 37.4	13.462	12	14 51 25.49	1.9079	17 7 46.9	11.126
13	13 25 0.20	1.7896	7 24 4.2	13.431	13	14 53 20.08	1.9117	17 18 52.4	11.058
14	13 26 47.61	1.7908	7 37 29.1	13.399	14	14 55 14.90	1.9155	17 29 53.8	10.989
15	13 28 35.10	1.7921	7 50 52.1	13.367	15	14 57 9.94	1.9193	17 40 51.1	10.920
16	13 30 22.66	1.7934	8 4 13.2	13.334	16	14 59 5.21	1.9232	17 51 44.2	10.850
17	13 32 10.31	1.7948	8 17 32.2	13.300	17	15 1 0.72	1.9271	18 2 33.1	10.779
18	13 33 58.04	1.7962	8 30 49.2	13.266	18	15 2 56.46	1.9310	18 13 17.7	10.707
19	13 35 45.86	1.7978	8 44 4.1	13.230	19	15 4 52.44	1.9350	18 23 57.9	10.634
20	13 37 33.78	1.7994	8 57 16.8	13.194	20	15 6 48.66	1.9391	18 34 33.8	10.561
21	13 39 21.79	1.8010	9 10 27.4	13.157	21	15 8 45.13	1.9432	18 45 5.3	10.487
22	13 41 9.90	1.8027	9 23 35.7	13.119	22	15 10 41.84	1.9473	18 55 32.3	10.419
23	13 42 58.11	1.8044	9 36 41.7	13.081	23	15 12 38.80	1.9514	19 5 54.7	10.335
24	13 44 46.43	1.8063	S. 9 49 45.4	13.042	24	15 14 36.01	1.9556	S. 19 16 12.5	10.258

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 25.					TUESDAY 27.				
0	^h 15 ^m 14 ^s 36.01	1.9556	S. 19° 16' 12.5"	10.358	0	^h 16 ^m 53 ^s 44.18	2.1787	S. 25° 44' 3.3"	5.580
1	15 16 33.47	1.9598	19 26 25.7	10.181	1	16 55 55.04	2.1833	25 49 33.9	5.451
2	15 18 31.19	1.9641	19 36 31.3	10.103	2	16 58 6.18	2.1879	25 54 57.4	5.338
3	15 20 29.16	1.9683	19 46 38.1	10.023	3	17 0 17.59	2.1924	26 0 13.8	5.219
4	15 22 27.38	1.9726	19 56 37.1	9.943	4	17 2 29.27	2.1969	26 5 22.9	5.090
5	15 24 25.87	1.9770	20 6 31.3	9.869	5	17 4 41.22	2.2015	26 10 24.6	4.966
6	15 26 24.62	1.9814	20 16 20.6	9.781	6	17 6 53.45	2.2060	26 15 19.0	4.845
7	15 28 23.64	1.9858	20 26 5.0	9.696	7	17 9 5.94	2.2104	26 20 6.0	4.721
8	15 30 22.92	1.9902	20 35 44.4	9.615	8	17 11 18.69	2.2148	26 24 45.5	4.597
9	15 32 22.46	1.9946	20 45 18.8	9.531	9	17 13 31.71	2.2192	26 29 17.6	4.472
10	15 34 22.27	1.9991	20 54 48.1	9.446	10	17 15 44.99	2.2235	26 33 42.2	4.346
11	15 36 22.36	2.0037	21 4 12.3	9.359	11	17 17 58.53	2.2278	26 37 59.1	4.219
12	15 38 22.72	2.0082	21 13 31.2	9.273	12	17 20 12.32	2.2320	26 42 8.4	4.091
13	15 40 23.35	2.0128	21 22 44.9	9.184	13	17 22 26.37	2.2362	26 46 10.0	3.962
14	15 42 24.26	2.0174	21 31 53.3	9.096	14	17 24 40.67	2.2403	26 50 3.9	3.833
15	15 44 25.44	2.0220	21 40 56.4	9.007	15	17 26 55.21	2.2444	26 53 50.0	3.703
16	15 46 26.90	2.0267	21 49 54.1	8.917	16	17 29 10.00	2.2486	26 57 28.3	3.573
17	15 48 28.64	2.0313	21 58 46.4	8.826	17	17 31 25.04	2.2527	27 0 58.8	3.442
18	15 50 30.66	2.0360	22 7 33.2	8.733	18	17 33 40.32	2.2566	27 4 21.4	3.310
19	15 52 32.96	2.0407	22 16 14.4	8.640	19	17 35 55.83	2.2604	27 7 36.0	3.177
20	15 54 35.54	2.0454	22 24 50.0	8.547	20	17 38 11.57	2.2643	27 10 42.6	3.043
21	15 56 38.41	2.0502	22 33 20.0	8.452	21	17 40 27.55	2.2682	27 13 41.2	2.909
22	15 58 41.56	2.0549	22 41 44.3	8.357	22	17 42 43.75	2.2719	27 16 31.7	2.774
23	16 0 45.00	2.0597	S. 22° 50' 2.8"	8.260	23	17 45 0.17	2.2755	S. 27° 19' 14.1"	2.639
MONDAY 26.					WEDNESDAY 28.				
0	16 2 48.72	2.0644	S. 22° 58' 15.5"	8.163	0	17 47 16.81	2.2792	S. 27° 21' 48.4"	2.503
1	16 4 52.73	2.0692	23 6 22.3	8.065	1	17 49 33.67	2.2836	27 24 14.5	2.366
2	16 6 57.02	2.0739	23 14 23.3	7.967	2	17 51 50.74	2.2883	27 26 32.3	2.227
3	16 9 1.60	2.0787	23 22 18.3	7.867	3	17 54 8.02	2.2926	27 28 41.8	2.089
4	16 11 6.47	2.0835	23 30 7.3	7.766	4	17 56 25.51	2.2971	27 30 43.0	1.950
5	16 13 11.62	2.0883	23 37 50.2	7.664	5	17 58 43.19	2.2963	27 32 35.8	1.811
6	16 15 17.07	2.0932	23 45 27.0	7.562	6	18 1 1.07	2.2996	27 34 20.3	1.671
7	16 17 22.81	2.0980	23 52 57.6	7.458	7	18 3 19.15	2.3038	27 35 56.3	1.529
8	16 19 28.83	2.1028	24 0 22.0	7.354	8	18 5 37.41	2.3059	27 37 23.8	1.386
9	16 21 35.14	2.1076	24 7 40.1	7.249	9	18 7 55.86	2.3090	27 38 42.8	1.246
10	16 23 41.74	2.1124	24 14 51.9	7.143	10	18 10 14.49	2.3120	27 39 53.3	1.104
11	16 25 48.63	2.1172	24 21 57.3	7.037	11	18 12 33.30	2.3149	27 40 55.3	0.962
12	16 27 55.80	2.1219	24 28 56.3	6.929	12	18 14 52.28	2.3177	27 41 48.7	0.818
13	16 30 3.26	2.1268	24 35 48.8	6.820	13	18 17 11.43	2.3205	27 42 33.4	0.673
14	16 32 11.01	2.1316	24 42 34.7	6.711	14	18 19 30.74	2.3233	27 43 9.4	0.528
15	16 34 19.05	2.1363	24 49 14.1	6.601	15	18 21 50.22	2.3260	27 43 36.8	0.383
16	16 36 27.37	2.1411	24 55 46.8	6.489	16	18 24 9.85	2.3284	27 43 55.4	0.238
17	16 38 35.98	2.1459	25 2 12.8	6.377	17	18 26 29.63	2.3308	27 44 5.3	- 0.092
18	16 40 44.88	2.1507	25 8 32.1	6.265	18	18 28 49.55	2.3332	27 44 6.4	+ 0.055
19	16 42 54.06	2.1554	25 14 44.6	6.151	19	18 31 9.61	2.3355	27 43 58.7	0.902
20	16 45 3.52	2.1601	25 20 50.2	6.037	20	18 33 20.81	2.3378	27 43 42.1	0.750
21	16 47 13.27	2.1648	25 26 49.0	5.923	21	18 35 50.15	2.3400	27 43 16.7	0.498
22	16 49 23.30	2.1694	25 32 40.8	5.805	22	18 38 10.61	2.3420	27 42 42.4	0.646
23	16 51 33.60	2.1741	25 38 25.6	5.687	23	18 40 31.19	2.3439	27 41 59.2	0.795
24	16 53 44.18	2.1787	S. 25° 44' 3.3"	5.569	24	18 42 51.88	2.3458	S. 27° 41' 7.0"	0.944

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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THURSDAY 29.

0	h m s	2.3458	S. 27° 41' 7.0	0.944
1	18 42 51.88	2.3476	27 40 5.9	1.093
2	18 45 12.69	2.3493	27 38 55.8	1.943
3	18 47 33.60	2.3510	27 37 36.7	1.393
4	18 49 54.61	2.3527	27 36 8.6	1.543
5	18 52 15.72	2.3542	27 34 31.5	1.693
6	18 54 36.93	2.3555	27 32 45.4	1.844
7	18 56 58.22	2.3568	27 30 50.2	1.996
8	18 59 19.59	2.3581	27 28 45.9	2.147
9	19 1 41.04	2.3592	27 26 32.5	2.299
10	19 4 2.56	2.3603	27 24 10.0	2.451
11	19 6 24.15	2.3613	27 21 38.4	2.603
12	19 8 45.80	2.3623	27 18 57.6	2.756
13	19 11 7.51	2.3630	27 16 7.7	2.908
14	19 13 29.27	2.3638	27 13 8.7	3.059
15	19 15 51.07	2.3645	27 10 0.6	3.212
16	19 18 12.92	2.3650	27 6 43.3	3.365
17	19 20 34.81	2.3654	27 3 16.8	3.517
18	19 22 56.72	2.3658	26 59 41.2	3.670
19	19 25 18.66	2.3662	26 55 56.4	3.823
20	19 27 40.62	2.3665	26 52 2.4	3.976
21	19 30 2.60	2.3667	26 47 59.3	4.129
22	19 32 24.60	2.3668	26 43 47.0	4.282
23	19 34 46.60	2.3668	S. 26 39 25.5	4.434

FRIDAY 30.

0	h m s	2.3667	S. 26 34 54.9	4.587
1	19 39 30.62	2.3666	26 30 15.1	4.739
2	19 41 52.62	2.3663	26 25 26.2	4.892
3	19 44 14.61	2.3660	26 20 28.1	5.044
4	19 46 36.58	2.3656	26 15 20.9	5.197
5	19 48 58.53	2.3652	26 10 4.5	5.349
6	19 51 20.45	2.3648	26 4 39.0	5.501
7	19 53 42.35	2.3642	25 59 4.4	5.652
8	19 56 4.22	2.3634	25 53 20.7	5.804
9	19 58 26.05	2.3626	25 47 27.9	5.956
10	20 0 47.83	2.3618	25 41 26.0	6.107
11	20 3 9.56	2.3611	25 35 15.1	6.258
12	20 5 31.25	2.3602	25 28 55.1	6.409
13	20 7 52.89	2.3591	25 22 26.0	6.559
14	20 10 14.47	2.3580	25 15 48.0	6.708
15	20 12 35.98	2.3569	25 9 1.0	6.858
16	20 14 57.43	2.3557	25 2 5.0	7.007
17	20 17 18.81	2.3544	24 55 0.1	7.156
18	20 19 40.11	2.3531	24 47 46.3	7.304
19	20 22 1.34	2.3518	24 40 23.6	7.453
20	20 24 22.49	2.3504	24 32 52.0	7.601
21	20 26 43.56	2.3489	24 25 11.5	7.748
22	20 29 4.54	2.3474	24 17 22.2	7.894
23	20 31 25.43	2.3458	24 9 24.2	8.040
24	20 33 46.23	2.3442	S. 24 1 17.4	8.187

SATURDAY, OCTOBER 1.

0	h m s	2.3442	S. 24° 1' 17.4	8.187
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PHASES OF THE MOON.

○ Full Moon . . .	Sept.	d h m	6 9 7.5
☾ Last Quarter . . .		13 0 49.5	
● New Moon . . .		20 13 16.2	
☽ First Quarter . . .		28 18 19.1	

☾ Perigee . . .	Sept.	d h	8 11.0
☾ Apogee . . .		24 6.0	

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SUN W.	111° 48' 36"	3177	113° 15' 13"	3161	114° 42' 9"	3145	116° 9' 24"	3129
	Spica W.	68 54 28	2822	70 28 27	2808	72 2 45	2792	73 37 23	2776
	Antares W.	23 0 39	2831	24 34 26	2815	26 8 36	2798	27 43 7	2781
	MARS E.	35 41 37	2804	34 7 14	2789	32 32 32	2775	30 57 32	2760
	Fomalhaut E.	61 35 0	3052	60 5 52	3045	58 36 35	3039	57 7 10	3033
	α Pegasi E.	82 33 24	3186	81 6 58	3174	79 40 18	3163	78 13 25	3152
2	Spica W.	81 35 48	2695	83 12 34	2678	84 49 43	2661	86 27 15	2645
	Antares W.	35 41 17	2695	37 18 3	2678	38 55 13	2660	40 32 46	2643
	Fomalhaut E.	49 38 33	3016	48 8 40	3016	46 38 47	3018	45 8 56	3022
	α Pegasi E.	70 55 48	3104	69 27 43	3096	67 59 28	3089	66 31 5	3082
	JUPITER E.	100 5 10	2666	98 27 44	2649	96 49 55	2632	95 11 43	2615
3	Antares W.	48 46 29	2555	50 26 26	2538	52 6 47	2520	53 47 32	2502
	α Pegasi E.	59 7 42	3069	57 38 55	3073	56 10 12	3077	54 41 34	3063
	JUPITER E.	86 54 52	2528	85 14 18	2511	83 33 20	2494	81 51 58	2477
	α Arietis E.	99 38 56	2621	98 0 30	2604	96 21 40	2586	94 42 26	2568
4	Antares W.	62 17 22	2417	64 0 32	2401	65 44 5	2384	67 28 2	2368
	α Pegasi E.	47 21 36	3164	45 54 44	3193	44 28 26	3227	43 2 49	3268
	JUPITER E.	73 19 5	2291	71 35 18	2375	69 51 8	2359	68 6 35	2343
	α Arietis E.	86 20 15	2484	84 38 39	2468	82 56 41	2452	81 14 20	2437
5	Antares W.	76 13 26	2293	77 59 36	2279	79 46 7	2265	81 32 58	2252
	JUPITER E.	59 18 7	2268	57 31 20	2253	55 44 12	2240	53 56 44	2227
	α Arietis E.	72 37 22	2367	70 53 0	2355	69 8 20	2343	67 23 23	2332
	Aldebaran E.	102 54 3	2334	101 8 53	2318	99 23 20	2304	97 37 27	2291
6	Antares W.	90 31 52	2193	92 20 30	2183	94 9 23	2173	95 58 31	2164
	α Aquilæ W.	50 17 13	3821	51 31 53	3730	52 48 8	3647	54 5 52	3569
	MARS W.	31 54 54	2202	33 43 18	2192	35 31 57	2183	37 20 50	2174
	JUPITER E.	44 54 41	2167	43 5 24	2157	41 15 52	2147	39 26 5	2138
	α Arietis E.	58 34 57	2288	56 48 40	2281	55 2 13	2276	53 15 38	2272
	Aldebaran E.	88 43 22	2232	86 55 42	2222	85 7 47	2212	83 19 38	2203
7	α Aquilæ W.	60 53 29	3275	62 18 10	3231	63 43 43	3190	65 10 4	3154
	MARS W.	46 28 17	2139	48 18 17	2134	50 8 24	2129	51 58 39	2125
	α Arietis E.	44 21 55	2272	42 35 14	2277	40 48 41	2285	39 2 19	2294
	Aldebaran E.	74 15 50	2169	72 26 36	2165	70 37 15	2160	68 47 47	2157
8	α Aquilæ W.	72 31 24	3022	74 1 10	3004	75 31 18	2989	77 1 45	2975
	MARS W.	61 11 6	2114	63 1 44	2114	64 52 22	2114	66 43 0	2115
	Fomalhaut W.	39 46 3	2548	41 26 9	2515	43 7 1	2487	44 48 32	2462
	Aldebaran E.	59 39 40	2153	57 50 1	2154	56 0 24	2157	54 10 51	2160
9	α Aquilæ W.	84 37 7	2945	86 8 29	2945	87 39 51	2947	89 11 10	2951
	MARS W.	75 55 32	2128	77 45 49	2132	79 36 0	2137	81 26 3	2141
	Fomalhaut W.	53 23 20	2384	55 7 17	2376	56 51 26	2369	58 35 45	2364
	α Pegasi W.	37 6 19	3252	38 31 27	3166	39 58 17	3091	41 26 37	3026
	Aldebaran E.	45 4 52	2192	43 16 13	2202	41 27 48	2213	39 39 40	2227
	Pollux E.	88 36 25	2107	86 45 36	2111	84 54 53	2115	83 4 16	2120
	VENUS E.	98 9 28	2423	96 26 26	2426	94 43 29	2431	93 0 38	2436

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Sun W.	117° 36' 59"	3112	119° 4' 54"	3006	120° 33' 9"	3078	122° 1' 45"	3060
	Spica W.	75 12 22	2761	76 47 41	2744	78 23 22	2729	79 59 24	2719
	Antares W.	29 18 0	2764	30 53 15	2747	32 28 53	2729	34 4 54	2713
	Mars E.	29 22 12	2746	27 46 33	2730	26 10 33	2715	24 34 13	2699
	Fomalhaut E.	55 37 38	3027	54 7 59	3022	52 38 14	3019	51 8 25	3017
	α Pegasi E.	76 46 18	3142	75 18 59	3131	73 51 27	3121	72 23 43	3112
2	Spica W.	88 5 9	2698	89 43 26	2610	91 22 7	2593	93 1 11	2575
	Antares W.	42 10 43	2695	43 49 4	2608	45 27 48	2591	47 6 56	2572
	Fomalhaut E.	43 39 11	3029	42 9 34	3039	40 40 9	3052	39 11 1	3070
	α Pegasi E.	65 2 34	3078	63 33 57	3073	62 5 15	3070	60 36 29	3089
	JUPITER E.	93 33 8	2506	91 54 10	2580	90 14 48	2563	88 35 2	2545
3	Antares W.	55 28 42	2485	57 10 16	2468	58 52 14	2451	60 31 36	2434
	α Pegasi E.	53 13 4	3092	51 44 45	3105	50 16 42	3120	48 48 57	3140
	JUPITER E.	80 10 12	2460	78 28 2	2442	76 45 27	2425	75 2 28	2408
	α Arietis E.	93 2 47	2551	91 22 44	2534	89 42 18	2517	88 1 28	2500
4	Antares W.	69 12 22	2353	70 57 5	2337	72 42 10	2322	74 27 37	2307
	α Pegasi E.	41 38 0	3317	40 14 8	3374	38 51 22	3443	37 29 54	3523
	JUPITER E.	66 21 38	2328	64 36 19	2312	62 50 37	2297	61 4 33	2282
	α Arietis E.	79 31 38	2422	77 48 34	2406	76 5 10	2394	74 21 26	2380
5	Antares W.	83 20 8	2239	85 7 37	2227	86 55 25	2215	88 43 30	2204
	JUPITER E.	52 8 57	2214	50 20 50	2202	48 32 25	2190	46 43 42	2178
	α Arietis E.	65 38 10	2322	63 52 42	2311	62 6 59	2303	60 21 4	2295
	Aldebaran E.	95 51 15	2279	94 4 44	2266	92 17 54	2253	90 30 46	2243
6	Antares W.	97 47 53	2155	99 37 28	2147	101 27 15	2139	103 17 14	2132
	α Aquilæ W.	55 25 0	2499	56 45 25	2435	58 7 2	2377	59 29 45	2324
	Mars W.	39 9 56	2166	40 59 15	2159	42 48 45	2151	44 38 26	2145
	JUPITER E.	37 36 4	2130	35 45 50	2121	33 55 23	2114	32 4 45	2107
	α Arietis E.	51 28 58	2270	49 42 14	2268	47 55 27	2268	46 8 40	2269
	Aldebaran E.	81 31 15	2125	79 42 40	2187	77 53 53	2180	76 4 56	2174
7	α Aquilæ W.	66 37 8	2121	68 4 52	2091	69 33 12	2065	71 2 4	2043
	Mars W.	53 49 0	2122	55 39 26	2119	57 29 56	2116	59 20 30	2115
	α Arietis E.	37 16 11	2307	35 30 22	2323	33 44 56	2342	31 59 58	2366
	Aldebaran E.	66 58 15	2155	65 8 39	2153	63 19 0	2152	61 29 20	2152
8	α Aquilæ W.	78 32 29	2065	80 3 26	2057	81 34 33	2051	83 5 47	2046
	Mars W.	68 33 36	2116	70 24 10	2118	72 14 42	2121	74 5 9	2124
	Fomalhaut W.	46 30 38	2441	48 13 14	2424	49 56 15	2408	51 39 38	2395
	Aldebaran E.	52 21 23	2165	50 32 2	2169	48 42 48	2176	46 53 44	2184
9	α Aquilæ W.	90 42 24	2057	92 13 31	2065	93 44 28	2074	95 15 13	2086
	Mars W.	83 15 59	2147	85 5 46	2153	86 55 24	2161	88 44 51	2167
	Fomalhaut W.	60 20 11	2360	62 4 43	2358	63 49 18	2357	65 33 55	2357
	α Pegasi W.	42 56 17	2270	44 27 7	2223	45 58 57	2281	47 31 40	2245
	Aldebaran E.	37 51 52	2241	36 4 26	2258	34 17 24	2277	32 30 54	2295
	Pollux E.	81 13 47	2125	79 23 26	2130	77 33 13	2137	75 43 10	2143
	VENUS E.	91 17 55	2441	89 35 19	2448	87 52 52	2455	86 10 35	2462

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	MARS W.	90° 34' 8"	2175	92° 23' 13"	2182	94° 12' 7"	2191	96° 0' 48"	2199
	Fomalhaut W.	67 18 31	2358	69 3 6	2361	70 47 37	2364	72 32 4	2368
	α Pegasi W.	49 5 10	2814	50 39 20	2787	52 14 5	2764	53 49 20	2744
	Pollux E.	73 53 16	2150	72 3 33	2157	70 14 1	2165	68 24 41	2174
	VENUS E.	84 28 28	2470	82 46 32	2478	81 4 48	2487	79 23 16	2496
11	Fomalhaut W.	81 12 27	2400	82 56 2	2408	84 39 25	2417	86 22 35	2427
	α Pegasi W.	61 50 42	2889	63 27 36	2884	65 4 37	2881	66 41 42	2880
	JUPITER W.	28 57 20	2189	30 46 4	2199	32 34 33	2209	34 22 47	2219
	Pollux E.	59 21 16	2219	57 33 17	2229	55 45 32	2239	53 58 3	2250
	VENUS E.	70 59 3	2548	69 18 57	2561	67 39 8	2572	65 59 35	2585
	SUN E.	116 42 56	2533	115 2 29	2544	113 22 17	2554	111 42 19	2565
12	α Pegasi W.	74 47 2	2691	76 23 54	2697	78 0 38	2703	79 37 14	2710
	JUPITER W.	43 20 6	2272	45 6 46	2283	46 53 10	2295	48 39 17	2306
	α Arietis W.	31 15 39	2556	32 55 35	2544	34 35 47	2535	36 16 11	2530
	Pollux E.	45 4 36	2304	43 18 43	2316	41 33 7	2328	39 47 48	2340
	VENUS E.	57 46 12	2651	56 8 26	2666	54 31 0	2681	52 53 54	2695
	Regulus E.	81 37 13	2314	79 51 34	2325	78 6 11	2337	76 21 5	2349
	SUN E.	103 26 16	2621	101 47 50	2634	100 9 41	2646	98 31 48	2657
13	JUPITER W.	57 25 47	2362	59 10 16	2374	60 54 28	2385	62 38 24	2396
	α Arietis W.	44 39 11	2530	46 19 43	2534	48 0 9	2538	49 40 29	2544
	Pollux E.	31 5 34	2401	29 22 0	2412	27 38 43	2425	25 55 44	2438
	VENUS E.	44 53 28	2775	43 18 27	2792	41 43 49	2810	40 9 34	2828
	Regulus E.	67 39 47	2407	65 56 22	2419	64 13 15	2431	62 30 25	2443
	SUN E.	90 26 29	2719	88 50 15	2732	87 14 17	2744	85 38 35	2756
14	JUPITER W.	71 14 2	2453	72 56 22	2464	74 38 26	2475	76 20 15	2485
	α Arietis W.	58 0 0	2579	59 39 24	2586	61 18 38	2595	62 57 40	2603
	Aldebaran W.	27 49 27	2674	29 26 42	2686	31 4 7	2692	32 41 38	2699
	Regulus E.	54 0 30	2504	52 19 22	2516	50 38 31	2528	48 57 57	2540
	SUN E.	77 44 11	2818	76 10 6	2830	74 36 17	2842	73 2 44	2854
15	JUPITER W.	84 45 33	2538	86 25 53	2549	88 5 58	2559	89 45 49	2569
	α Arietis W.	71 9 55	2647	72 47 46	2657	74 25 24	2666	76 2 50	2673
	Aldebaran W.	40 49 25	2668	42 26 48	2672	44 4 5	2678	45 41 15	2683
	Regulus E.	40 39 21	2602	39 0 20	2615	37 21 55	2628	35 43 38	2642
	SUN E.	65 18 47	2913	63 46 45	2924	62 14 57	2936	60 43 24	2948
16	JUPITER W.	98 1 39	2618	99 40 9	2628	101 18 26	2637	102 56 31	2646
	α Arietis W.	84 6 53	2722	85 43 4	2731	87 19 3	2741	88 54 49	2750
	Aldebaran W.	53 45 3	2716	55 21 22	2723	56 57 31	2730	58 33 31	2738
	SUN E.	53 9 13	3003	51 39 4	3014	50 9 9	3025	48 39 27	3036
17	Aldebaran W.	66 30 56	2776	68 5 55	2785	69 40 43	2792	71 15 22	2800
	Pollux W.	22 15 16	2741	23 51 2	2747	25 26 39	2755	27 2 6	2762
	SUN E.	41 14 17	3089	39 45 54	3101	38 17 45	3111	36 49 49	3122
18	Aldebaran W.	79 6 0	2839	80 39 37	2847	82 13 4	2855	83 46 21	2862
	Pollux W.	34 56 51	2801	36 31 18	2809	38 5 34	2817	39 39 40	2825
	SUN E.	29 33 26	3178	28 6 50	3190	26 40 29	3202	25 14 22	3215

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	MARS W.	97° 49' 17"	2208	99° 37' 32"	2218	101° 25' 33"	2227	103° 13' 20"	2237
	Fomalhaut W.	74 16 25	2373	76 0 39	2378	77 44 45	2385	79 28 41	2392
	α Pegasi W.	55 25 1	2729	57 1 3	2715	58 37 23	2704	60 13 57	2696
	Pollux E.	66 35 34	2182	64 46 39	2191	62 57 58	2200	61 9 30	2209
	VENUS E.	77 41 57	2506	76 0 52	2516	74 20 1	2526	72 39 24	2538
11	Fomalhaut W.	88 5 31	2437	89 48 13	2448	91 30 40	2459	93 12 51	2470
	α Pegasi W.	68 18 49	2680	69 55 56	2681	71 33 2	2684	73 10 4	2687
	JUPITER W.	36 10 46	2229	37 58 30	2240	39 45 58	2251	41 33 10	2262
	Pollux E.	52 10 50	2261	50 23 53	2271	48 37 11	2282	46 50 45	2294
	VENUS E.	64 20 19	2597	62 41 20	2610	61 2 39	2624	59 24 16	2638
	SUN E.	110 2 36	2576	108 23 8	2587	106 43 55	2599	105 4 58	2610
12	α Pegasi W.	81 13 41	2718	82 49 57	2728	84 26 2	2736	86 1 54	2747
	JUPITER W.	50 25 8	2317	52 10 42	2328	53 56 0	2339	55 41 2	2351
	α Arietis W.	37 56 43	2527	39 37 19	2525	41 17 58	2525	42 58 36	2527
	Pollux E.	38 2 47	2359	36 18 3	2364	34 33 36	2375	32 49 26	2388
	VENUS E.	51 17 7	2710	49 40 41	2725	48 4 35	2742	46 28 51	2758
	Regulus E.	74 36 15	2260	72 51 43	2371	71 7 27	2384	69 23 29	2395
	SUN E.	96 54 11	2670	95 16 51	2682	93 39 47	2695	92 3 0	2707
13	JUPITER W.	64 22 4	2408	66 5 28	2419	67 48 35	2431	69 31 26	2441
	α Arietis W.	51 20 41	2550	53 0 45	2556	54 40 40	2564	56 20 25	2571
	Pollux E.	24 13 3	2451	22 30 41	2465	20 48 38	2479	19 6 55	2494
	VENUS E.	38 35 42	2848	37 2 16	2867	35 29 15	2888	33 56 41	2909
	Regulus E.	60 47 52	2455	59 5 36	2467	57 23 37	2480	55 41 55	2492
	SUN E.	84 3 10	2769	82 28 1	2781	80 53 8	2793	79 18 31	2806
14	JUPITER W.	78 1 49	2496	79 43 8	2507	81 24 11	2518	83 4 59	2528
	α Arietis W.	64 36 31	2612	66 15 10	2621	67 53 37	2629	69 31 52	2638
	Aldebaran W.	34 19 13	2686	35 56 49	2659	37 34 24	2661	39 11 56	2663
	Regulus E.	47 17 40	2553	45 37 40	2564	43 57 56	2577	42 18 30	2590
	SUN E.	71 29 26	2886	69 56 23	2878	68 23 36	2890	66 51 4	2901
15	JUPITER W.	91 25 26	2580	93 4 49	2589	94 43 59	2599	96 22 56	2609
	α Arietis W.	77 40 3	2684	79 17 4	2693	80 53 53	2703	82 30 29	2712
	Aldebaran W.	47 18 18	2689	48 55 12	2695	50 31 58	2702	52 8 35	2709
	Regulus E.	34 5 40	2655	32 28 0	2669	30 50 39	2684	29 13 38	2699
	SUN E.	59 12 6	2959	57 41 2	2970	56 10 12	2981	54 39 36	2992
16	JUPITER W.	104 34 23	2655	106 12 3	2665	107 49 30	2674	109 26 45	2683
	α Arietis W.	90 30 23	2759	92 5 45	2769	93 40 54	2778	95 15 51	2787
	Aldebaran W.	60 9 20	2746	61 44 59	2753	63 20 28	2761	64 55 47	2769
	SUN E.	47 9 59	3047	45 40 44	3057	44 11 42	3068	42 42 53	3078
17	Aldebaran W.	72 49 50	2808	74 24 8	2816	75 58 15	2823	77 32 13	2831
	Pollux W.	28 37 24	2770	30 12 31	2778	31 47 28	2785	33 22 15	2794
	SUN E.	35 22 6	3133	33 54 36	3143	32 27 19	3155	31 0 16	3166
18	Aldebaran W.	85 19 28	2870	86 52 25	2878	88 25 12	2886	89 57 49	2894
	Pollux W.	41 13 36	2839	42 47 22	2840	44 20 58	2848	45 54 24	2855
	SUN E.	23 48 31	3229	22 22 56	3243	20 57 38	3260	19 32 40	3279

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Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
22	SUN	W.	16° 8' 54"	3478	17° 29' 43"	3470	18° 50' 41"	3465	20° 11' 44"	3463
	Antares	E.	52 40 31	3092	51 10 46	3097	49 41 7	3033	48 11 35	3038
	α Aquilæ	E.	101 27 9	3893	100 13 42	3890	99 0 12	3886	97 46 40	3886
	MARS	E.	113 29 58	3105	112 1 54	3111	110 33 58	3117	109 6 9	3122
23	SUN	W.	26 57 22	3469	28 18 29	3463	29 39 35	3463	31 0 40	3465
	Antares	E.	40 45 22	3060	39 16 24	3064	37 47 30	3068	36 18 41	3072
	α Aquilæ	E.	91 38 56	3892	90 25 28	3896	89 12 4	3900	87 58 44	3904
	MARS	E.	101 48 35	3147	100 21 22	3150	98 54 13	3154	97 27 9	3158
24	SUN	W.	37 45 44	3470	39 6 42	3470	40 27 40	3471	41 48 37	3471
	Antares	E.	28 55 40	3087	27 27 14	3090	25 58 52	3091	24 30 32	3095
	α Aquilæ	E.	81 53 27	3938	80 40 46	3946	79 28 13	3956	78 15 50	3967
	MARS	E.	90 12 49	3173	88 46 7	3174	87 19 27	3177	85 52 50	3178
25	SUN	W.	48 33 27	3467	49 54 28	3464	51 15 32	3463	52 36 38	3461
	α Aquilæ	E.	72 16 49	4032	71 5 41	4048	69 54 49	4066	68 44 14	4084
	MARS	E.	78 39 59	3179	77 13 25	3179	75 46 51	3178	74 20 15	3177
	Fomalhaut	E.	99 45 52	3963	98 20 57	3959	96 55 58	3957	95 30 56	3954
26	SUN	W.	59 22 58	3449	60 44 27	3436	62 6 3	3431	63 27 44	3425
	α Aquilæ	E.	62 56 12	4198	61 47 44	4206	60 39 42	4256	59 32 9	4290
	MARS	E.	67 6 42	3163	65 39 49	3159	64 12 51	3155	62 45 48	3150
	Fomalhaut	E.	88 24 54	3938	86 59 30	3924	85 34 1	3920	84 8 27	3925
	α Pegasi	E.	108 26 42	3463	107 5 37	3454	105 44 21	3443	104 22 53	3432
27	SUN	W.	70 18 0	3389	71 40 29	3381	73 3 7	3379	74 25 56	3369
	α Aquilæ	E.	54 2 51	4500	52 58 59	4552	51 55 53	4611	50 53 38	4675
	MARS	E.	55 28 57	3190	54 1 12	3113	52 33 18	3105	51 5 15	3096
	Fomalhaut	E.	76 59 19	3902	75 33 12	3198	74 7 0	3192	72 40 41	3187
	α Pegasi	E.	97 32 40	3389	96 10 3	3372	94 47 15	3363	93 24 16	3353
28	SUN	W.	81 22 55	3307	82 46 58	3295	84 11 15	3289	85 35 47	3279
	Antares	W.	18 52 4	2960	20 23 7	2946	21 54 28	2932	23 26 6	2918
	MARS	E.	43 42 14	3049	42 13 2	3038	40 43 36	3026	39 13 56	3014
	Fomalhaut	E.	65 27 28	3158	64 0 29	3153	62 33 24	3148	61 6 12	3143
	α Pegasi	E.	86 26 34	3305	85 2 28	3295	83 38 11	3286	82 13 43	3276
	JUPITER	E.	114 24 26	2894	112 52 0	2862	111 19 18	2871	109 46 22	2859
29	SUN	W.	92 42 29	3197	94 8 42	3189	95 35 13	3185	97 2 4	3148
	Antares	W.	31 8 49	2845	32 42 18	2830	34 16 7	2815	35 50 16	2799
	MARS	E.	31 41 46	2950	30 10 30	2936	28 38 57	2922	27 7 6	2907
	Fomalhaut	E.	53 48 52	3193	52 21 10	3191	50 53 26	3119	49 25 40	3190
	α Pegasi	E.	75 8 42	3239	73 43 11	3295	72 17 31	3316	70 51 41	3309
	JUPITER	E.	101 57 40	2793	100 23 3	2779	98 48 7	2763	97 12 51	2749
30	SUN	W.	104 21 27	3060	105 50 25	3043	107 19 45	3024	108 49 28	3005
	Antares	W.	43 46 16	2716	45 22 34	2698	46 59 16	2681	48 36 21	2663
	Fomalhaut	E.	42 7 28	3144	40 40 12	3157	39 13 11	3173	37 46 29	3193
	α Pegasi	E.	63 40 36	3162	62 14 5	3178	60 47 30	3177	59 20 53	3177
	JUPITER	E.	89 11 25	2868	87 34 2	2852	85 56 17	2834	84 18 8	2817
	α Arietis	E.	104 36 7	2784	103 1 18	2766	101 26 5	2747	99 50 28	2729

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
22	SUN W.	21° 32' 50"	3461	22° 53' 58"	3461	24° 15' 6"	3461	25° 36' 14"	3461
	Antares E.	46 42 9	3043	45 12 49	3047	43 43 34	3052	42 14 25	3056
	α Aquilæ E.	96 33 6	3886	95 19 32	3887	94 5 59	3888	92 52 27	3889
	MARS E.	107 38 26	3197	106 10 49	3133	104 43 19	3137	103 15 54	3149
23	SUN W.	32 21 43	3466	33 42 45	3467	35 3 46	3469	36 24 45	3469
	Antares E.	34 49 57	3075	33 21 17	3078	31 52 41	3089	30 24 9	3084
	α Aquilæ E.	86 45 28	3910	85 32 18	3916	84 19 14	3922	83 6 17	3929
	MARS E.	96 0 9	3162	94 33 14	3164	93 6 22	3168	91 39 34	3170
24	SUN W.	43 9 34	3471	44 30 31	3470	45 51 29	3470	47 12 27	3468
	Antares E.	23 2 16	3096	21 34 2	3100	20 5 52	3103	18 37 46	3106
	α Aquilæ E.	77 3 38	3978	75 51 37	3990	74 39 48	4004	73 28 12	4017
	MARS E.	84 26 14	3179	82 59 40	3179	81 33 6	3180	80 6 33	3179
25	SUN W.	53 57 46	3457	55 18 58	3454	56 40 14	3450	58 1 34	3446
	α Aquilæ E.	67 33 57	4104	66 23 59	4125	65 14 21	4147	64 5 5	4172
	MARS E.	72 53 38	3174	71 26 58	3173	70 0 16	3170	68 33 31	3167
	Fomalhaut E.	94 5 51	3951	92 40 42	3948	91 15 30	3945	89 50 14	3942
26	SUN W.	64 49 32	3419	66 11 27	3419	67 33 30	3405	68 55 41	3398
	α Aquilæ E.	58 25 7	4325	57 18 37	4364	56 12 43	4406	55 7 27	4450
	MARS E.	61 18 39	3145	59 51 24	3139	58 24 2	3133	56 56 33	3128
	Fomalhaut E.	82 42 48	3921	81 17 4	3917	79 51 15	3919	78 25 20	3907
	α Pegasi E.	103 1 13	3423	101 39 22	3419	100 17 19	3402	98 55 5	3393
27	SUN W.	75 48 56	3352	77 12 7	3342	78 35 30	3331	79 59 6	3319
	α Aquilæ E.	49 52 17	4745	48 51 55	4821	47 52 36	4905	46 54 25	4998
	MARS E.	49 37 1	3068	48 8 37	3078	46 40 1	3069	45 11 14	3059
	Fomalhaut E.	71 14 16	3181	69 47 44	3172	68 21 5	3170	66 54 20	3164
	α Pegasi E.	92 1 6	3344	90 37 45	3333	89 14 12	3325	87 50 29	3314
28	SUN W.	87 0 34	3256	88 25 37	3242	89 50 57	3227	91 16 34	3212
	Antares W.	24 58 2	2904	26 30 16	2890	28 2 48	2875	29 35 30	2860
	MARS E.	37 44 1	3002	36 13 51	2990	34 43 26	2977	33 12 44	2964
	Fomalhaut E.	59 38 55	3138	58 11 32	3133	56 44 3	3130	55 16 30	3126
	α Pegasi E.	80 49 4	3967	79 24 14	3959	77 50 14	3949	76 34 3	3941
	JUPITER E.	108 13 11	2847	106 39 44	2834	105 6 0	2821	103 31 59	2807
29	SUN W.	98 29 15	3122	99 56 46	3114	101 24 38	3096	102 52 52	3079
	Antares W.	37 24 45	2783	38 59 35	2766	40 34 47	2750	42 10 20	2733
	MARS E.	25 34 56	2893	24 2 28	2877	22 29 40	2862	20 56 32	2846
	Fomalhaut E.	47 57 55	3121	46 30 11	3124	45 2 30	3129	43 34 55	3125
	α Pegasi E.	69 25 43	3903	67 59 37	3196	66 33 23	3190	65 7 2	3186
	JUPITER E.	95 37 16	2733	94 1 20	2717	92 25 3	2701	90 48 25	2685
30	SUN W.	110 19 35	2985	111 50 6	2966	113 21 1	2946	114 52 21	2926
	Antares W.	50 13 50	2646	51 51 43	2627	53 30 1	2609	55 8 44	2590
	Fomalhaut E.	36 20 11	3218	34 54 23	3209	33 29 12	3208	32 4 46	3206
	α Pegasi E.	57 54 16	3178	56 27 40	3180	55 1 7	3185	53 34 40	3192
	JUPITER E.	82 39 36	2599	81 0 40	2581	79 21 19	2563	77 41 33	2545
	α Arietis E.	98 14 26	2710	96 38 0	2692	95 1 9	2674	93 23 54	2655

AT GREENWICH APPARENT NOON.

THE SUN'S										
Day of the Week.	Day of the Month.	Apparent Right Ascension.			Diff. for 1 Hour.	Apparent Declination.			Diff. for 1 Hour.	Semi-diameter.
		h	m	s		°	'	"		
Sat.	1	12	32	9.31	9.063	S. 3	28	20.4	-58.18	16 1.63
SUN.	2	12	35	46.97	9.076	3	51	35.7	58.07	16 1.91
Mon.	3	12	39	24.94	9.089	4	14	48.2	57.95	16 2.19
Tues.	4	12	43	3.24	9.104	4	37	57.6	-57.82	16 2.47
Wed.	5	12	46	41.90	9.119	5	1	3.5	57.67	16 2.75
Thur.	6	12	50	20.95	9.136	5	24	5.6	57.51	16 3.03
Frid.	7	12	54	0.41	9.153	5	47	3.6	-57.33	16 3.30
Sat.	8	12	57	40.30	9.172	6	9	57.1	57.14	16 3.58
SUN.	9	13	1	20.64	9.191	6	32	45.9	56.93	16 3.85
Mon.	10	13	5	1.45	9.211	6	55	29.6	-56.71	16 4.13
Tues.	11	13	8	42.76	9.232	7	18	7.8	56.47	16 4.40
Wed.	12	13	12	24.59	9.254	7	40	40.1	56.23	16 4.67
Thur.	13	13	16	6.95	9.276	8	3	6.2	-55.95	16 4.94
Frid.	14	13	19	49.87	9.300	8	25	25.8	55.67	16 5.21
Sat.	15	13	23	33.36	9.324	8	47	38.4	55.37	16 5.48
SUN.	16	13	27	17.44	9.349	9	9	43.6	-55.05	16 5.75
Mon.	17	13	31	2.13	9.374	9	31	41.0	54.72	16 6.02
Tues.	18	13	34	47.43	9.400	9	53	30.3	54.37	16 6.29
Wed.	19	13	38	33.38	9.427	10	15	11.0	-54.01	16 6.55
Thur.	20	13	42	19.98	9.454	10	36	42.7	53.62	16 6.82
Frid.	21	13	46	7.24	9.482	10	58	5.0	53.22	16 7.09
Sat.	22	13	49	55.17	9.510	11	19	17.4	-52.80	16 7.36
SUN.	23	13	53	43.78	9.540	11	40	19.5	52.36	16 7.62
Mon.	24	13	57	33.08	9.569	12	1	10.9	51.91	16 7.89
Tues.	25	14	1	23.09	9.599	12	21	51.2	-51.44	16 8.15
Wed.	26	14	5	13.82	9.629	12	42	20.0	50.95	16 8.42
Thur.	27	14	9	5.27	9.659	13	2	36.9	50.44	16 8.68
Frid.	28	14	12	57.46	9.690	13	22	41.4	-49.92	16 8.94
Sat.	29	14	16	50.40	9.722	13	42	33.1	49.38	16 9.20
SUN.	30	14	20	44.10	9.754	14	2	11.6	48.82	16 9.46
Mon.	31	14	24	38.58	9.786	14	21	36.6	48.25	16 9.72
Tues.	32	14	28	33.84	9.819	S. 14	40	47.6	-47.66	16 9.98

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
Sat.	1	12 32 10.90	9.065	S. 3 28 30.6	-58.19	10 32.20	0.791	12 42 43.10
SUN.	2	12 35 48.61	9.078	3 51 46.2	58.08	10 51.05	0.778	12 46 39.66
Mon.	3	12 39 26.63	9.091	4 14 59.0	57.96	11 9.58	0.765	12 50 36.21
Tues.	4	12 43 4.98	9.106	4 38 8.6	-57.83	11 27.79	0.750	12 54 32.77
Wed.	5	12 46 43.69	9.121	5 1 14.8	57.68	11 45.63	0.736	12 58 29.32
Thur.	6	12 50 22.79	9.138	5 24 17.2	57.52	12 3.08	0.718	13 2 25.87
Frid.	7	12 54 2.30	9.155	5 47 15.4	-57.34	12 20.12	0.701	13 6 22.42
Sat.	8	12 57 42.23	9.174	6 10 9.1	57.15	12 36.75	0.682	13 10 18.98
SUN.	9	13 1 22.61	9.193	6 32 58.1	56.94	12 52.92	0.663	13 14 15.53
Mon.	10	13 5 3.47	9.213	6 55 42.0	-56.72	13 8.62	0.643	13 18 12.09
Tues.	11	13 8 44.82	9.234	7 18 20.4	56.48	13 23.82	0.622	13 22 8.64
Wed.	12	13 12 26.69	9.256	7 40 52.9	56.23	13 38.50	0.600	13 26 5.19
Thur.	13	13 16 9.09	9.278	8 3 19.2	-55.96	13 52.65	0.578	13 30 1.74
Frid.	14	13 19 52.05	9.302	8 25 38.9	55.68	14 6.25	0.554	13 33 58.30
Sat.	15	13 23 35.58	9.326	8 47 51.6	55.38	14 19.27	0.530	13 37 54.85
SUN.	16	13 27 19.70	9.351	9 9 56.9	-55.06	14 31.70	0.505	13 41 51.41
Mon.	17	13 31 4.43	9.376	9 31 54.4	54.73	14 43.53	0.480	13 45 47.96
Tues.	18	13 34 49.77	9.402	9 53 43.8	54.38	14 54.75	0.454	13 49 44.52
Wed.	19	13 38 35.75	9.429	10 15 24.6	-54.01	15 5.33	0.427	13 53 41.07
Thur.	20	13 42 22.38	9.456	10 36 56.3	53.62	15 15.25	0.400	13 57 37.63
Frid.	21	13 46 9.67	9.484	10 58 18.6	53.22	15 24.51	0.372	14 1 34.18
Sat.	22	13 49 57.63	9.512	11 19 31.1	-52.80	15 33.11	0.344	14 5 30.74
SUN.	23	13 53 46.27	9.541	11 40 33.2	52.36	15 41.03	0.315	14 9 27.29
Mon.	24	13 57 35.60	9.570	12 1 24.6	51.91	15 48.25	0.286	14 13 23.85
Tues.	25	14 1 25.63	9.600	12 22 4.9	-51.44	15 54.77	0.256	14 17 20.40
Wed.	26	14 5 16.38	9.630	12 42 33.6	50.95	16 0.58	0.226	14 21 16.96
Thur.	27	14 9 7.86	9.660	13 2 50.4	50.44	16 5.66	0.196	14 25 13.51
Frid.	28	14 13 0.07	9.691	13 22 54.8	-49.92	16 10.00	0.165	14 29 10.07
Sat.	29	14 16 53.03	9.723	13 42 46.4	49.38	16 13.59	0.133	14 33 6.62
SUN.	30	14 20 46.75	9.755	14 2 24.8	48.82	16 16.43	0.101	14 37 3.18
Mon.	31	14 24 41.24	9.787	14 21 49.7	48.25	16 18.50	0.069	14 40 59.73
Tues.	32	14 28 36.51	9.820	S. 14 41 0.6	-47.66	16 19.78	0.036	14 44 56.29

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 hour,
+ 9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	275	188° 45' 54.0	45° 27.4	147.68	— 0.40	0.0001688	—53.2	11 ^h 15 ^m 25.95 ^s
2	276	189 44 59.2	44 32.5	147.76	0.37	0.0000413	53.1	11 11 30.03
3	277	190 44 6.2	43 39.4	147.84	0.32	9.9999142	52.9	11 7 34.12
4	278	191 43 15.1	42 48.2	147.92	— 0.24	9.9997875	—52.7	11 3 38.21
5	279	192 42 25.9	41 58.9	148.00	0.13	9.9996614	52.4	10 59 42.31
6	280	193 41 38.7	41 11.6	148.08	— 0.01	9.9995360	52.2	10 55 46.40
7	281	194 40 53.7	40 26.5	148.17	+ 0.12	9.9994112	—51.9	10 51 50.49
8	282	195 40 10.7	39 43.4	148.26	0.25	9.9992871	51.6	10 47 54.58
9	283	196 39 29.9	39 2.5	148.35	0.38	9.9991636	51.3	10 43 58.67
10	284	197 38 51.3	38 23.8	148.44	+ 0.50	9.9990408	—51.0	10 40 2.77
11	285	198 38 15.0	37 47.4	148.54	0.59	9.9989186	50.8	10 36 6.86
12	286	199 37 41.1	37 13.3	148.63	0.66	9.9987969	50.6	10 32 10.95
13	287	200 37 9.5	36 41.6	148.73	+ 0.71	9.9986756	—50.4	10 28 15.04
14	288	201 36 40.1	36 12.1	148.82	0.73	9.9985548	50.3	10 24 19.14
15	289	202 36 13.1	35 45.0	148.92	0.72	9.9984343	50.2	10 20 23.23
16	290	203 35 48.4	35 20.2	149.01	+ 0.68	9.9983138	—50.2	10 16 27.32
17	291	204 35 25.9	34 57.5	149.11	0.61	9.9981934	50.2	10 12 31.41
18	292	205 35 5.7	34 37.2	149.20	0.52	9.9980730	50.2	10 8 35.51
19	293	206 34 47.7	34 19.1	149.29	+ 0.41	9.9979526	—50.2	10 4 39.60
20	294	207 34 31.8	34 3.1	149.38	0.29	9.9978322	50.2	10 0 43.69
21	295	208 34 17.9	33 49.1	149.46	0.16	9.9977118	50.2	9 56 47.78
22	296	209 34 5.9	33 37.0	149.54	+ 0.02	9.9975914	—50.2	9 52 51.87
23	297	210 33 55.8	33 26.7	149.62	— 0.11	9.9974710	50.1	9 48 55.96
24	298	211 33 47.5	33 18.3	149.70	0.22	9.9973508	50.0	9 45 0.05
25	299	212 33 41.0	33 11.7	149.77	— 0.31	9.9972310	—49.8	9 41 4.14
26	300	213 33 36.2	33 6.7	149.84	0.38	9.9971116	49.6	9 37 8.23
27	301	214 33 33.1	33 3.4	149.90	0.42	9.9969928	49.4	9 33 12.32
28	302	215 33 31.6	33 1.8	149.97	— 0.43	9.9968747	—49.0	9 29 16.41
29	303	216 33 31.6	33 1.8	150.03	0.40	9.9967574	48.6	9 25 20.50
30	304	217 33 33.3	33 3.3	150.10	0.35	9.9966412	48.1	9 21 24.60
31	305	218 33 36.6	33 6.4	150.17	0.28	9.9965264	47.6	9 17 28.69
32	306	219 33 41.6	33 11.2	150.24	— 0.18	9.9964130	—47.0	9 13 32.78
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 1 st .0.								
Diff. for 1 Hour, — 9 ^s .8296. (Table II.)								

GREENWICH MEAN TIME.

. THE MOON'S

Day of the Month.	SEMI-DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 39.6	15' 47.3	57' 21.7	+2.34	57' 50.1	+2.39	8 11.2	2.24	10.5
2	15 55.2	16 2.9	58 18.9	2.40	58 47.5	2.35	9 4.4	2.18	11.5
3	16 10.5	16 17.6	59 15.2	2.25	59 41.4	2.10	9 56.2	2.13	12.5
4	16 24.2	16 29.9	60 5.4	+1.88	60 26.5	+1.61	10 47.1	2.10	13.5
5	16 34.7	16 38.3	60 44.0	1.29	60 57.4	0.94	11 37.9	2.12	14.5
6	16 40.7	16 41.9	61 6.3	+0.55	61 10.5	+0.15	12 29.8	2.19	15.5
7	16 41.7	16 40.3	61 9.9	-0.25	61 4.6	-0.63	13 23.9	2.31	16.5
8	16 37.6	16 33.9	60 54.9	0.97	60 41.3	1.29	14 21.0	2.43	17.5
9	16 29.2	16 23.8	60 24.1	1.56	60 4.1	1.76	15 21.0	2.53	18.5
10	16 17.8	16 11.3	59 41.9	-1.92	59 18.1	-2.03	16 22.6	2.56	19.5
11	16 4.6	15 57.7	58 53.4	2.09	58 28.2	2.10	17 23.8	2.50	20.5
12	15 50.9	15 44.2	58 3.1	2.08	57 38.5	2.02	18 22.3	2.34	21.5
13	15 37.7	15 31.5	57 14.7	-1.95	56 51.9	-1.85	19 16.7	2.16	22.5
14	15 25.6	15 20.1	56 30.4	1.74	56 10.3	1.62	20 6.5	1.99	23.5
15	15 15.1	15 10.4	55 51.7	1.50	55 34.5	1.37	20 52.2	1.83	24.5
16	15 6.2	15 2.3	55 18.9	-1.25	55 4.7	-1.13	21 34.9	1.72	25.5
17	14 58.8	14 55.8	54 52.0	1.00	54 40.7	0.89	22 15.5	1.66	26.5
18	14 53.1	14 50.7	54 30.8	0.78	54 22.1	0.67	22 55.2	1.64	27.5
19	14 48.7	14 47.0	54 14.7	-0.57	54 8.6	-0.46	23 34.9	1.66	28.5
20	14 45.7	14 44.7	54 3.7	0.36	54 0.0	0.26	6		29.5
21	14 44.0	14 43.7	53 57.6	-0.16	53 56.4	-0.04	0 15.7	1.73	0.7
22	14 43.8	14 44.2	53 56.7	+0.08	53 58.3	+0.21	0 58.3	1.82	1.7
23	14 45.1	14 46.4	54 1.5	0.34	54 6.4	0.48	1 43.4	1.93	2.7
24	14 48.2	14 50.5	54 12.9	0.62	54 21.3	0.78	2 31.4	2.04	3.7
25	14 53.2	14 56.6	54 31.5	+0.94	54 43.8	+1.11	3 22.0	2.14	4.7
26	15 0.5	15 5.0	54 58.2	1.29	55 14.6	1.46	4 14.5	2.21	5.7
27	15 10.0	15 15.7	55 33.2	1.64	55 53.8	1.60	5 8.0	2.22	6.7
28	15 21.8	15 28.5	56 16.4	+1.96	56 40.9	+2.11	6 1.1	2.18	7.7
29	15 35.6	15 43.0	57 7.0	2.23	57 34.4	2.33	6 53.0	2.13	8.7
30	15 50.8	15 58.6	58 2.8	2.39	58 31.7	2.40	7 43.6	2.08	9.7
31	16 6.5	16 14.1	59 0.5	2.37	59 28.6	2.29	8 33.1	2.05	10.7
32	16 21.4	16 28.2	59 55.4	+2.15	60 20.1	+1.94	9 22.6	2.06	11.7

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 1.					MONDAY 3.				
0	^h 20 ^m 36 ^s 6.93	2.3442	S. 24° 1' 17.4"	8.187	0	^h 22 ^m 26 ^s 15.10	2.3424	S. 14° 54' 13.5"	14.251
1	20 38 27.53	2.3485	23 53 1.8	8.332	1	22 28 29.59	2.3406	14 39 55.4	14.352
2	20 40 48.03	2.3408	23 44 37.6	8.476	2	22 30 43.97	2.3387	14 25 31.3	14.452
3	20 43 8.43	2.3391	23 36 4.7	8.621	3	22 32 58.23	2.3368	14 11 1.2	14.550
4	20 45 28.72	2.3373	23 27 23.1	8.764	4	22 35 12.38	2.3350	13 56 25.3	14.646
5	20 47 48.90	2.3355	23 18 33.0	8.907	5	22 37 26.43	2.3333	13 41 43.7	14.740
6	20 50 8.98	2.3337	23 9 34.3	9.050	6	22 39 40.38	2.3316	13 26 56.5	14.834
7	20 52 28.94	2.3317	23 0 27.0	9.192	7	22 41 54.22	2.3298	13 12 3.7	14.927
8	20 54 48.78	2.3297	22 51 11.3	9.332	8	22 44 7.96	2.3281	12 57 5.3	15.018
9	20 57 8.50	2.3277	22 41 47.2	9.472	9	22 46 21.60	2.3265	12 42 1.5	15.107
10	20 59 28.10	2.3257	22 32 14.7	9.612	10	22 48 35.14	2.3249	12 26 52.4	15.196
11	21 1 47.58	2.3237	22 22 33.8	9.751	11	22 50 48.59	2.3234	12 11 38.0	15.283
12	21 4 6.94	2.3216	22 12 44.6	9.889	12	22 53 1.95	2.3219	11 56 18.5	15.368
13	21 6 26.17	2.3194	22 2 47.1	10.027	13	22 55 15.22	2.3205	11 40 53.9	15.452
14	21 8 45.27	2.3173	21 52 41.4	10.163	14	22 57 28.41	2.3192	11 25 24.3	15.534
15	21 11 4.25	2.3152	21 42 27.5	10.299	15	22 59 41.52	2.3178	11 9 49.8	15.615
16	21 13 23.10	2.3131	21 32 5.5	10.435	16	23 1 54.55	2.3163	10 54 10.5	15.694
17	21 15 41.82	2.3108	21 21 35.3	10.570	17	23 4 7.50	2.3152	10 38 26.5	15.772
18	21 18 0.40	2.3086	21 10 57.1	10.703	18	23 6 20.38	2.3141	10 22 37.8	15.849
19	21 20 18.85	2.3064	21 0 10.9	10.836	19	23 8 33.19	2.3130	10 6 44.6	15.923
20	21 22 37.17	2.3042	20 49 16.8	10.968	20	23 10 45.94	2.3119	9 50 47.0	15.997
21	21 24 55.35	2.3019	20 38 14.8	11.099	21	23 12 58.62	2.3108	9 34 45.0	16.068
22	21 27 13.40	2.2996	20 27 4.9	11.229	22	23 15 11.24	2.3099	9 18 38.8	16.138
23	21 29 31.31	2.2973	S. 20° 15' 47.3"	11.358	23	23 17 23.81	2.3091	S. 9° 2' 28.4"	16.207
SUNDAY 2.					TUESDAY 4.				
0	21 31 49.08	2.2950	S. 20° 4' 22.0"	11.486	0	23 19 36.33	2.3069	S. 8° 46' 13.9"	16.275
1	21 34 6.71	2.2927	19 52 49.0	11.614	1	23 21 48.80	2.3075	8 29 55.4	16.340
2	21 36 24.21	2.2905	19 41 8.3	11.741	2	23 24 1.23	2.3067	8 13 33.1	16.403
3	21 38 41.57	2.2882	19 29 20.1	11.866	3	23 26 13.61	2.3060	7 57 7.0	16.466
4	21 40 58.79	2.2859	19 17 24.4	11.990	4	23 28 25.95	2.3054	7 40 37.2	16.526
5	21 43 15.87	2.2836	19 5 21.3	12.113	5	23 30 38.26	2.3050	7 24 3.9	16.584
6	21 45 32.82	2.2813	18 53 10.8	12.236	6	23 32 50.55	2.3046	7 7 27.1	16.642
7	21 47 49.63	2.2790	18 40 53.0	12.357	7	23 35 2.81	2.3042	6 50 46.9	16.697
8	21 50 6.30	2.2767	18 28 27.9	12.478	8	23 37 15.05	2.3038	6 34 3.4	16.751
9	21 52 22.84	2.2745	18 15 55.6	12.597	9	23 39 27.27	2.3036	6 17 16.8	16.803
10	21 54 39.24	2.2722	18 3 16.2	12.716	10	23 41 39.48	2.3034	6 0 27.1	16.853
11	21 56 55.50	2.2699	17 50 29.7	12.833	11	23 43 51.68	2.3032	5 43 34.4	16.902
12	21 59 11.63	2.2677	17 37 36.2	12.949	12	23 46 3.87	2.3030	5 26 38.9	16.948
13	22 1 27.63	2.2655	17 24 35.8	13.064	13	23 48 16.06	2.3028	5 9 40.6	16.994
14	22 3 43.49	2.2633	17 11 28.5	13.178	14	23 50 28.25	2.3023	4 52 39.6	17.037
15	22 5 59.22	2.2611	16 58 14.4	13.291	15	23 52 40.45	2.3024	4 35 36.1	17.078
16	22 8 14.82	2.2589	16 44 53.6	13.402	16	23 54 52.66	2.3027	4 18 30.2	17.118
17	22 10 30.29	2.2568	16 31 26.2	13.512	17	23 57 4.89	2.3040	4 1 21.9	17.157
18	22 12 45.64	2.2547	16 17 52.1	13.622	18	23 59 17.14	2.3043	3 44 11.4	17.193
19	22 15 0.86	2.2526	16 4 11.5	13.730	19	0 1 29.41	2.3047	3 26 58.8	17.227
20	22 17 15.95	2.2505	15 50 24.5	13.837	20	0 3 41.71	2.3052	3 9 44.2	17.260
21	22 19 30.92	2.2485	15 36 31.1	13.943	21	0 5 54.04	2.3058	2 52 27.7	17.290
22	22 21 45.77	2.2465	15 22 31.4	14.047	22	0 8 6.41	2.3065	2 35 9.4	17.319
23	22 24 0.50	2.2444	15 8 25.5	14.149	23	0 10 18.82	2.3073	2 17 49.4	17.348
24	22 26 15.10	2.2424	S. 14° 54' 13.5"	14.251	24	0 12 31.28	2.3081	S. 2° 0' 27.9"	17.371

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 5.					FRIDAY 7.				
0	h m s	s	S. ° ' "	"	0	h m s	s	N. ° ' "	"
0	0 12 31.28	2.3081	S. 2 0 27.9	17.371	0	2 0 50.28	2.3324	N. 11 44 42.9	16.925
1	0 14 43.79	2.3089	1 43 4.9	17.394	1	2 3 10.35	2.3366	12 0 54.2	16.151
2	0 16 56.35	2.3098	1 25 40.6	17.415	2	2 5 30.67	2.3408	12 17 1.0	16.074
3	0 19 8.97	2.3109	1 8 15.1	17.435	3	2 7 51.24	2.3450	12 33 3.1	15.995
4	0 21 21.66	2.3130	0 50 48.4	17.459	4	2 10 12.07	2.3493	12 49 0.4	15.914
5	0 23 34.41	2.3131	0 33 20.8	17.468	5	2 12 33.16	2.3537	13 4 52.8	15.831
6	0 25 47.23	2.3143	S. 0 15 52.3	17.482	6	2 14 54.52	2.3589	13 20 40.1	15.745
7	0 28 0.13	2.3167	N. 0 1 37.0	17.483	7	2 17 16.14	2.3626	13 36 22.2	15.658
8	0 30 13.12	2.3171	0 19 6.9	17.503	8	2 19 38.03	2.3672	13 51 59.1	15.570
9	0 32 26.19	2.3186	0 36 37.4	17.511	9	2 22 0.20	2.3717	14 7 30.6	15.478
10	0 34 39.35	2.3202	0 54 8.3	17.517	10	2 24 22.64	2.3763	14 22 56.5	15.385
11	0 36 52.61	2.3218	1 11 39.4	17.530	11	2 26 45.36	2.3809	14 38 16.8	15.290
12	0 39 5.96	2.3234	1 29 10.7	17.539	12	2 29 8.35	2.3855	14 53 31.3	15.192
13	0 41 19.42	2.3252	1 46 42.1	17.559	13	2 31 31.62	2.3902	15 8 39.9	15.093
14	0 43 32.99	2.3271	2 4 13.4	17.590	14	2 33 55.17	2.3949	15 23 42.5	14.992
15	0 45 46.67	2.3290	2 21 44.5	17.516	15	2 36 19.01	2.3997	15 38 38.9	14.888
16	0 48 0.47	2.3310	2 39 15.3	17.510	16	2 38 43.13	2.4044	15 53 29.0	14.783
17	0 50 14.39	2.3331	2 56 45.7	17.509	17	2 41 7.51	2.4092	16 8 12.8	14.676
18	0 52 28.44	2.3353	3 14 15.5	17.491	18	2 43 32.23	2.4139	16 22 50.1	14.566
19	0 54 42.62	2.3375	3 31 44.6	17.479	19	2 45 57.21	2.4187	16 37 20.7	14.454
20	0 56 56.94	2.3397	3 49 13.0	17.466	20	2 48 22.48	2.4236	16 51 44.6	14.342
21	0 59 11.39	2.3421	4 6 40.5	17.449	21	2 50 48.04	2.4284	17 6 1.7	14.227
22	1 1 25.99	2.3446	4 24 6.9	17.431	22	2 53 13.89	2.4333	17 20 11.8	14.109
23	1 3 40.74	2.3473	N. 4 41 32.2	17.411	23	2 55 40.03	2.4381	N. 17 34 14.8	13.990
THURSDAY 6.					SATURDAY 8.				
0	1 5 55.65	2.3496	N. 4 58 56.2	17.388	0	2 58 6.46	2.4429	N. 17 48 10.6	13.869
1	1 8 10.71	2.3524	5 16 18.8	17.364	1	3 0 33.18	2.4478	18 1 59.1	13.747
2	1 10 25.94	2.3551	5 33 39.9	17.337	2	3 3 0.19	2.4527	18 15 40.2	13.622
3	1 12 41.33	2.3579	5 50 59.3	17.308	3	3 5 27.50	2.4576	18 29 13.7	13.495
4	1 14 56.89	2.3608	6 8 16.9	17.277	4	3 7 55.10	2.4624	18 42 39.6	13.367
5	1 17 12.63	2.3638	6 25 32.6	17.245	5	3 10 22.99	2.4673	18 55 57.7	13.237
6	1 19 28.54	2.3668	6 42 46.3	17.210	6	3 12 51.17	2.4721	19 9 8.0	13.105
7	1 21 44.64	2.3699	6 59 57.8	17.173	7	3 15 19.64	2.4769	19 22 10.3	12.971
8	1 24 0.93	2.3731	7 17 7.0	17.134	8	3 17 48.40	2.4817	19 35 4.5	12.835
9	1 26 17.41	2.3763	7 34 13.9	17.093	9	3 20 17.45	2.4865	19 47 50.5	12.697
10	1 28 34.08	2.3796	7 51 18.2	17.050	10	3 22 46.78	2.4913	20 0 28.2	12.558
11	1 30 50.96	2.3830	8 8 19.9	17.005	11	3 25 16.40	2.4960	20 12 57.5	12.418
12	1 33 8.04	2.3864	8 25 18.8	16.957	12	3 27 46.30	2.5007	20 25 18.4	12.277
13	1 35 25.33	2.3899	8 42 14.8	16.907	13	3 30 16.49	2.5054	20 37 30.7	12.133
14	1 37 42.83	2.3934	8 59 7.7	16.856	14	3 32 46.95	2.5100	20 49 34.3	11.986
15	1 40 0.54	2.3970	9 15 57.5	16.802	15	3 35 17.69	2.5147	21 1 29.0	11.838
16	1 42 18.47	2.3008	9 32 44.0	16.747	16	3 37 48.71	2.5193	21 13 14.8	11.689
17	1 44 36.63	2.3046	9 49 27.1	16.689	17	3 40 20.00	2.5238	21 24 51.7	11.539
18	1 46 55.02	2.3084	10 6 6.7	16.629	18	3 42 51.56	2.5283	21 36 19.5	11.387
19	1 49 13.64	2.3122	10 22 42.6	16.567	19	3 45 23.39	2.5327	21 47 38.1	11.233
20	1 51 32.49	2.3161	10 39 14.7	16.503	20	3 47 55.48	2.5370	21 58 47.5	11.078
21	1 53 51.57	2.3200	10 55 43.0	16.437	21	3 50 27.83	2.5413	22 9 47.5	10.921
22	1 56 10.89	2.3241	11 12 7.2	16.368	22	3 53 0.44	2.5456	22 20 38.0	10.763
23	1 58 30.46	2.3282	11 28 27.2	16.297	23	3 55 33.30	2.5498	22 31 19.0	10.604
24	2 0 50.28	2.3324	N. 11 44 42.9	16.225	24	3 58 6.42	2.5540	N. 22 41 50.5	10.444

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 9.					TUESDAY 11.				
0	^h 3 ^m 58 ^s 6.42	2.5540	N. 22° 41' 50.5"	10.444	0	^h 6 ^m 3 ^s 34.95	2.6253	N. 27° 38' 57.5"	1.797
1	4 0 39.78	2.5580	22 52 12.3	10.981	1	6 6 12.41	2.6234	27 40 35.5	1.539
2	4 3 13.38	2.5621	23 2 24.2	10.116	2	6 8 49.76	2.6214	27 42 2.2	1.352
3	4 5 47.23	2.5661	23 12 26.2	9.951	3	6 11 26.98	2.6192	27 43 17.7	1.166
4	4 8 21.31	2.5699	23 22 18.3	9.786	4	6 14 4.06	2.6168	27 44 22.1	0.980
5	4 10 55.62	2.5737	23 32 0.5	9.619	5	6 16 41.00	2.6143	27 45 15.3	0.794
6	4 13 30.15	2.5773	23 41 32.6	9.450	6	6 19 17.78	2.6117	27 45 57.4	0.608
7	4 16 4.90	2.5809	23 50 54.5	9.280	7	6 21 54.40	2.6090	27 46 28.4	0.425
8	4 18 39.86	2.5844	24 0 6.2	9.109	8	6 24 30.85	2.6059	27 46 48.4	0.241
9	4 21 15.03	2.5879	24 9 7.6	8.937	9	6 27 7.11	2.6028	27 46 57.3	+ 0.057
10	4 23 50.41	2.5919	24 17 58.7	8.764	10	6 29 43.18	2.5996	27 46 55.2	- 0.135
11	4 26 25.98	2.5944	24 26 39.3	8.589	11	6 32 19.06	2.5963	27 46 42.3	0.306
12	4 29 1.74	2.5976	24 35 9.4	8.413	12	6 34 54.74	2.5928	27 46 18.5	0.487
13	4 31 37.69	2.6007	24 43 28.9	8.237	13	6 37 30.20	2.5891	27 45 43.9	0.668
14	4 34 13.82	2.6036	24 51 37.9	8.061	14	6 40 5.43	2.5853	27 44 58.4	0.846
15	4 36 50.12	2.6063	24 59 36.2	7.883	15	6 42 40.44	2.5815	27 44 2.1	1.027
16	4 39 26.58	2.6090	25 7 23.8	7.703	16	6 45 15.21	2.5774	27 42 55.1	1.206
17	4 42 3.20	2.6117	25 15 0.6	7.523	17	6 47 49.73	2.5739	27 41 37.5	1.382
18	4 44 39.98	2.6142	25 22 26.6	7.348	18	6 50 24.00	2.5690	27 40 9.3	1.557
19	4 47 16.90	2.6165	25 29 41.7	7.161	19	6 52 58.01	2.5646	27 38 30.6	1.732
20	4 49 53.96	2.6187	25 36 45.9	6.979	20	6 55 31.75	2.5600	27 36 41.4	1.907
21	4 52 31.15	2.6209	25 43 39.2	6.797	21	6 58 5.21	2.5553	27 34 41.7	2.081
22	4 55 8.47	2.6229	25 50 21.5	6.613	22	7 0 38.39	2.5505	27 32 31.7	2.253
23	4 57 45.90	2.6247	N. 25 56 52.7	6.426	23	7 3 11.28	2.5457	N. 27 30 11.4	2.424
MONDAY 10.					WEDNESDAY 12.				
0	5 0 23.44	2.6265	N. 26 3 12.8	6.243	0	7 5 43.87	2.5407	N. 27 27 40.8	2.585
1	5 3 1.08	2.6281	26 9 21.8	6.058	1	7 8 16.16	2.5356	27 25 0.0	2.764
2	5 5 38.81	2.6296	26 15 19.7	5.872	2	7 10 48.14	2.5303	27 22 9.1	2.939
3	5 8 16.63	2.6309	26 21 6.4	5.685	3	7 13 19.80	2.5249	27 19 8.2	3.098
4	5 10 54.52	2.6321	26 26 41.9	5.498	4	7 15 51.13	2.5195	27 15 57.3	3.264
5	5 13 32.48	2.6331	26 32 6.2	5.311	5	7 18 22.14	2.5141	27 12 36.5	3.429
6	5 16 10.49	2.6339	26 37 19.2	5.123	6	7 20 52.82	2.5085	27 9 5.8	3.593
7	5 18 48.55	2.6347	26 42 20.9	4.935	7	7 23 23.16	2.5027	27 5 25.3	3.755
8	5 21 26.66	2.6355	26 47 11.4	4.747	8	7 25 53.15	2.4969	27 1 35.2	3.916
9	5 24 4.81	2.6360	26 51 50.6	4.558	9	7 28 22.79	2.4911	26 57 35.4	4.077
10	5 26 42.98	2.6363	26 56 18.4	4.369	10	7 30 52.08	2.4851	26 53 26.0	4.235
11	5 29 21.17	2.6365	27 0 34.9	4.181	11	7 33 21.00	2.4789	26 49 7.2	4.392
12	5 31 59.36	2.6365	27 4 40.1	3.992	12	7 35 49.55	2.4726	26 44 39.0	4.548
13	5 34 37.55	2.6364	27 8 33.9	3.802	13	7 38 17.73	2.4666	26 40 1.4	4.703
14	5 37 15.73	2.6362	27 12 16.4	3.613	14	7 40 45.54	2.4603	26 35 14.6	4.857
15	5 39 53.89	2.6357	27 15 47.5	3.424	15	7 43 12.97	2.4539	26 30 18.6	5.009
16	5 42 32.02	2.6359	27 19 7.3	3.235	16	7 45 40.01	2.4475	26 25 13.5	5.160
17	5 45 10.11	2.6345	27 22 15.7	3.046	17	7 48 6.67	2.4411	26 19 59.4	5.310
18	5 47 48.16	2.6337	27 25 12.8	2.857	18	7 50 32.94	2.4345	26 14 36.3	5.458
19	5 50 26.15	2.6327	27 27 58.5	2.668	19	7 52 58.81	2.4278	26 9 4.4	5.605
20	5 53 4.08	2.6315	27 30 32.9	2.479	20	7 55 24.28	2.4211	26 3 23.7	5.751
21	5 55 41.93	2.6309	27 32 56.0	2.291	21	7 57 49.35	2.4144	25 57 34.3	5.895
22	5 58 19.70	2.6297	27 35 7.8	2.102	22	8 0 14.01	2.4077	25 51 36.3	6.038
23	6 0 57.38	2.6271	27 37 8.3	1.914	23	8 2 38.27	2.4009	25 45 29.7	6.180
24	6 3 34.95	2.6253	N. 27 38 57.5	1.727	24	8 5 2.12	2.3940	N. 25 39 14.7	6.320

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 13.					SATURDAY 15.				
0	^h 8 ^m 5 ^s 2.12	2.3940	N. 25° 39' 14.7"	6.390	0	^h 9 ^m 51 ^s 49.00	2.0613	N. 18° 21' 16.1"	11.401
1	8 7 25.55	2.3871	25 32 51.3	6.458	1	9 53 52.49	2.0551	18 9 49.8	11.474
2	8 9 48.57	2.3802	25 26 19.7	6.595	2	9 55 55.61	2.0489	17 58 19.2	11.546
3	8 12 11.17	2.3733	25 19 39.9	6.731	3	9 57 58.36	2.0428	17 46 44.3	11.617
4	8 14 33.35	2.3663	25 12 52.0	6.866	4	10 0 0.75	2.0368	17 35 5.2	11.687
5	8 16 55.11	2.3591	25 5 56.0	6.999	5	10 2 2.78	2.0308	17 23 21.9	11.756
6	8 19 16.44	2.3520	24 58 52.1	7.131	6	10 4 4.45	2.0249	17 11 34.5	11.823
7	8 21 37.35	2.3449	24 51 40.3	7.261	7	10 6 5.77	2.0191	16 59 43.1	11.889
8	8 23 57.83	2.3377	24 44 20.8	7.389	8	10 8 6.74	2.0133	16 47 47.8	11.953
9	8 26 17.88	2.3306	24 36 53.6	7.517	9	10 10 7.36	2.0075	16 35 48.7	12.017
10	8 28 37.50	2.3235	24 29 18.8	7.643	10	10 12 7.64	2.0018	16 23 45.8	12.080
11	8 30 56.70	2.3164	24 21 36.5	7.768	11	10 14 7.58	1.9962	16 11 39.1	12.142
12	8 33 15.47	2.3092	24 13 46.7	7.891	12	10 16 7.19	1.9907	15 59 28.8	12.202
13	8 35 33.81	2.3020	24 5 49.6	8.019	13	10 18 6.47	1.9853	15 47 14.9	12.261
14	8 37 51.71	2.2948	23 57 45.2	8.139	14	10 20 5.42	1.9797	15 34 57.5	12.318
15	8 40 9.18	2.2876	23 49 33.7	8.261	15	10 22 4.04	1.9743	15 22 36.7	12.375
16	8 42 26.22	2.2804	23 41 15.1	8.386	16	10 24 2.34	1.9691	15 10 12.5	12.432
17	8 44 42.82	2.2732	23 32 49.5	8.484	17	10 26 0.33	1.9640	14 57 44.9	12.488
18	8 46 59.00	2.2661	23 24 17.0	8.599	18	10 27 58.02	1.9589	14 45 14.0	12.543
19	8 49 14.75	2.2589	23 15 37.6	8.719	19	10 29 55.40	1.9537	14 32 39.9	12.593
20	8 51 30.06	2.2516	23 6 51.5	8.833	20	10 31 52.47	1.9486	14 20 2.8	12.644
21	8 53 44.94	2.2444	22 57 58.8	8.933	21	10 33 49.23	1.9436	14 7 22.6	12.695
22	8 55 59.39	2.2372	22 48 59.5	9.043	22	10 35 45.70	1.9387	13 54 30.4	12.745
23	8 58 13.41	2.2301	N. 22° 39' 53.6"	9.152	23	10 37 41.88	1.9339	N. 13° 41' 53.2"	12.793
FRIDAY 14.					SUNDAY 16.				
0	9 0 27.00	2.2230	N. 22° 30' 41.3"	9.258	0	10 39 37.77	1.9291	N. 13° 29' 4.2"	12.840
1	9 2 40.17	2.2159	22 21 22.6	9.369	1	10 41 33.37	1.9244	13 16 12.4	12.887
2	9 4 52.91	2.2088	22 11 57.8	9.464	2	10 43 28.70	1.9198	13 3 17.8	12.932
3	9 7 5.22	2.2017	22 2 26.9	9.566	3	10 45 23.75	1.9152	12 50 20.5	12.977
4	9 9 17.11	2.1947	21 52 49.9	9.667	4	10 47 18.53	1.9107	12 37 20.6	13.020
5	9 11 28.58	2.1877	21 43 6.8	9.767	5	10 49 13.04	1.9063	12 24 18.1	13.062
6	9 13 39.63	2.1807	21 33 17.8	9.865	6	10 51 7.29	1.9020	12 11 13.2	13.103
7	9 15 50.26	2.1737	21 23 23.0	9.962	7	10 53 1.28	1.8977	11 58 5.8	13.143
8	9 18 0.47	2.1666	21 13 22.4	10.057	8	10 54 55.01	1.8934	11 44 56.0	13.182
9	9 20 10.27	2.1599	21 3 16.2	10.150	9	10 56 48.49	1.8893	11 31 43.9	13.221
10	9 22 19.66	2.1530	20 53 4.4	10.243	10	10 58 41.73	1.8853	11 18 29.5	13.258
11	9 24 28.63	2.1461	20 42 47.0	10.335	11	11 0 34.73	1.8812	11 5 12.9	13.295
12	9 26 37.19	2.1393	20 32 24.2	10.424	12	11 2 27.48	1.8772	10 51 54.1	13.331
13	9 28 45.35	2.1326	20 21 56.1	10.512	13	11 4 20.00	1.8734	10 38 33.2	13.365
14	9 30 53.11	2.1259	20 11 22.7	10.599	14	11 6 12.29	1.8696	10 25 10.3	13.398
15	9 33 0.46	2.1192	20 0 44.2	10.684	15	11 8 4.36	1.8659	10 11 45.5	13.430
16	9 35 7.41	2.1126	19 50 0.6	10.769	16	11 9 56.20	1.8623	9 58 18.7	13.462
17	9 37 13.97	2.1060	19 39 11.9	10.854	17	11 11 47.83	1.8587	9 44 50.0	13.492
18	9 39 20.13	2.0994	19 28 18.1	10.937	18	11 13 39.24	1.8551	9 31 19.6	13.522
19	9 41 25.90	2.0930	19 17 19.5	11.017	19	11 15 30.44	1.8517	9 17 47.4	13.552
20	9 43 31.29	2.0866	19 6 16.1	11.096	20	11 17 21.44	1.8484	9 4 13.4	13.580
21	9 45 36.29	2.0801	18 55 8.0	11.174	21	11 19 12.25	1.8451	8 50 37.8	13.607
22	9 47 40.90	2.0738	18 43 55.2	11.251	22	11 21 2.86	1.8418	8 37 0.6	13.632
23	9 49 45.14	2.0675	18 32 37.9	11.326	23	11 22 53.27	1.8386	8 23 21.9	13.657
24	9 51 49.00	2.0613	N. 18° 21' 16.1"	11.401	24	11 24 43.49	1.8355	N. 8° 9' 41.7"	13.682

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 17.					WEDNESDAY 19.				
0	^h 11 ^m 24 ^s 43.49	1.8355	N. 8° 9' 41.7"	-13.689	0	^h 12 ^m 50 ^s 35.35	1.7683	S. 2° 59' 9.8"	13.676
1	11 26 33.53	1.8325	7 56 0.1	13.705	1	12 52 21.45	1.7685	3 13 2.1	13.683
2	11 28 23.39	1.8296	7 42 17.1	13.738	2	12 54 7.57	1.7689	3 26 53.4	13.647
3	11 30 13.08	1.8267	7 28 32.7	13.751	3	12 55 53.72	1.7693	3 40 43.7	13.630
4	11 32 2.59	1.8239	7 14 47.0	13.772	4	12 57 39.89	1.7697	3 54 31.0	13.613
5	11 33 51.94	1.8219	7 1 0.1	13.791	5	12 59 26.08	1.7701	4 8 21.2	13.785
6	11 35 41.13	1.8185	6 47 12.1	13.810	6	13 1 12.30	1.7707	4 22 8.4	13.777
7	11 37 30.16	1.8159	6 33 22.9	13.826	7	13 2 58.56	1.7713	4 35 54.4	13.757
8	11 39 19.04	1.8133	6 19 32.7	13.845	8	13 4 44.86	1.7719	4 49 39.2	13.736
9	11 41 7.76	1.8108	6 5 41.5	13.862	9	13 6 31.19	1.7726	5 3 22.7	13.714
10	11 42 56.34	1.8085	5 51 49.3	13.878	10	13 8 17.57	1.7735	5 17 4.9	13.692
11	11 44 44.78	1.8069	5 37 56.1	13.893	11	13 10 4.01	1.7744	5 30 45.8	13.670
12	11 46 33.08	1.8039	5 24 2.1	13.907	12	13 11 50.50	1.7753	5 44 25.3	13.646
13	11 48 21.25	1.8017	5 10 7.3	13.920	13	13 13 37.04	1.7763	5 58 3.3	13.622
14	11 50 9.29	1.7996	4 56 11.7	13.932	14	13 15 23.65	1.7773	6 11 39.9	13.597
15	11 51 57.20	1.7975	4 42 15.4	13.943	15	13 17 10.32	1.7784	6 25 15.0	13.571
16	11 53 44.99	1.7956	4 28 18.5	13.954	16	13 18 57.06	1.7796	6 38 48.5	13.544
17	11 55 32.67	1.7937	4 14 20.9	13.965	17	13 20 43.87	1.7808	6 52 20.3	13.517
18	11 57 20.24	1.7919	4 0 22.7	13.974	18	13 22 30.76	1.7821	7 5 50.5	13.489
19	11 59 7.70	1.7901	3 46 24.0	13.982	19	13 24 17.73	1.7835	7 19 19.0	13.460
20	12 0 55.05	1.7883	3 32 24.9	13.989	20	13 26 4.78	1.7849	7 32 45.7	13.430
21	12 2 42.30	1.7867	3 18 25.3	13.997	21	13 27 51.92	1.7864	7 46 10.6	13.399
22	12 4 20.46	1.7852	3 4 25.3	14.003	22	13 29 39.15	1.7879	7 59 33.6	13.368
23	12 6 16.53	1.7837	N. 2 50 25.0	14.007	23	13 31 26.47	1.7894	S. 8 12 54.7	13.336
TUESDAY 18.					THURSDAY 20.				
0	12 8 3.50	1.7892	N. 2 36 24.5	14.011	0	13 33 13.88	1.7910	S. 8 26 13.9	13.305
1	12 9 50.39	1.7869	2 22 23.7	14.014	1	13 35 1.39	1.7926	8 39 31.1	13.269
2	12 11 37.21	1.7796	2 8 22.8	14.017	2	13 36 49.01	1.7946	8 52 46.2	13.235
3	12 13 23.95	1.7784	1 54 21.7	14.019	3	13 38 36.74	1.7964	9 5 59.3	13.201
4	12 15 10.62	1.7773	1 40 20.5	14.020	4	13 40 24.58	1.7983	9 19 10.3	13.164
5	12 16 57.23	1.7763	1 26 19.3	14.021	5	13 42 12.54	1.8008	9 32 19.0	13.127
6	12 18 43.77	1.7752	1 12 18.0	14.021	6	13 44 0.61	1.8022	9 45 25.5	13.089
7	12 20 30.25	1.7742	0 58 16.8	14.019	7	13 45 48.80	1.8043	9 58 29.7	13.051
8	12 22 16.68	1.7734	0 44 15.7	14.016	8	13 47 37.12	1.8064	10 11 31.6	13.013
9	12 24 3.06	1.7726	0 30 14.8	14.013	9	13 49 25.57	1.8085	10 24 31.2	12.973
10	12 25 49.39	1.7718	0 16 14.1	14.010	10	13 51 14.14	1.8107	10 37 28.4	12.933
11	12 27 35.68	1.7711	N. 0 2 13.6	14.006	11	13 53 2.85	1.8130	10 50 23.1	12.890
12	12 29 21.93	1.7705	S. 0 11 46.6	14.001	12	13 54 51.70	1.8153	11 3 15.2	12.848
13	12 31 8.14	1.7699	0 25 46.5	13.996	13	13 56 40.69	1.8177	11 16 4.8	12.805
14	12 32 54.32	1.7695	0 39 46.0	13.988	14	13 58 29.82	1.8201	11 28 51.8	12.763
15	12 34 40.48	1.7692	0 53 45.0	13.980	15	14 0 19.10	1.8226	11 41 36.2	12.717
16	12 36 26.62	1.7688	1 7 43.6	13.972	16	14 2 8.53	1.8252	11 54 17.8	12.671
17	12 38 12.74	1.7685	1 21 41.7	13.963	17	14 3 58.12	1.8278	12 6 56.7	12.625
18	12 39 58.84	1.7682	1 35 39.2	13.953	18	14 5 47.86	1.8304	12 19 32.8	12.578
19	12 41 44.93	1.7681	1 49 36.1	13.943	19	14 7 37.76	1.8331	12 32 6.1	12.530
20	12 43 31.01	1.7680	2 3 32.3	13.933	20	14 9 27.83	1.8358	12 44 36.4	12.481
21	12 45 17.09	1.7680	2 17 27.9	13.920	21	14 11 18.06	1.8386	12 57 3.8	12.432
22	12 47 3.17	1.7681	2 31 22.7	13.907	22	14 13 8.46	1.8414	13 9 28.2	12.382
23	12 48 49.26	1.7682	2 45 16.7	13.893	23	14 14 59.03	1.8443	13 21 49.6	12.332
24	12 50 35.35	1.7683	S. 2 59 9.8	13.878	24	14 16 49.78	1.8472	S. 13 34 8.0	12.280

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 21.					SUNDAY 23.				
0	14 16 49.78	1.8472	S. 13° 34' 8.0	12.980	0	15 49 40.73	2.0339	S. 22° 7' 50.2	6.797
1	14 18 40.70	1.8508	13 46 23.2	12.987	1	15 51 42.90	2.0384	22 16 35.2	6.703
2	14 20 31.81	1.8533	13 58 35.2	12.172	2	15 53 45.34	2.0428	22 25 14.5	6.608
3	14 22 23.10	1.8564	14 10 43.9	12.117	3	15 55 48.04	2.0473	22 33 48.1	6.513
4	14 24 14.58	1.8596	14 22 49.3	12.062	4	15 57 51.02	2.0519	22 42 16.0	6.416
5	14 26 6.25	1.8627	14 34 51.4	12.007	5	15 59 54.27	2.0564	22 50 38.0	6.318
6	14 27 58.10	1.8659	14 46 50.2	11.951	6	16 1 57.79	2.0609	22 58 54.2	6.221
7	14 29 50.15	1.8692	14 58 45.5	11.893	7	16 4 1.58	2.0655	23 7 4.5	6.122
8	14 31 42.40	1.8725	15 10 37.3	11.834	8	16 6 5.65	2.0700	23 15 8.8	6.022
9	14 33 34.85	1.8758	15 22 25.6	11.775	9	16 8 9.98	2.0744	23 23 7.1	5.922
10	14 35 27.50	1.8792	15 34 10.3	11.715	10	16 10 14.58	2.0790	23 30 59.4	5.820
11	14 37 20.36	1.8827	15 45 51.4	11.654	11	16 12 19.46	2.0836	23 38 45.5	5.717
12	14 39 13.43	1.8862	15 57 28.8	11.592	12	16 14 24.61	2.0881	23 46 25.4	5.613
13	14 41 6.71	1.8897	16 9 2.5	11.530	13	16 16 30.03	2.0926	23 53 59.1	5.509
14	14 43 0.20	1.8933	16 20 32.4	11.466	14	16 18 35.72	2.0970	24 1 26.5	5.405
15	14 44 53.91	1.8969	16 31 58.4	11.401	15	16 20 41.67	2.1014	24 8 47.7	5.300
16	14 46 47.83	1.9006	16 43 20.5	11.336	16	16 22 47.89	2.1059	24 16 2.5	5.193
17	14 48 41.98	1.9043	16 54 38.7	11.271	17	16 24 54.38	2.1104	24 23 10.8	5.085
18	14 50 36.35	1.9081	17 5 53.0	11.204	18	16 27 1.14	2.1149	24 30 12.7	4.977
19	14 52 30.95	1.9118	17 17 3.2	11.136	19	16 29 8.17	2.1193	24 37 8.1	4.868
20	14 54 25.77	1.9156	17 28 9.3	11.067	20	16 31 15.46	2.1237	24 43 56.9	4.758
21	14 56 20.82	1.9194	17 39 11.2	10.997	21	16 33 23.01	2.1280	24 50 39.0	4.647
22	14 58 16.10	1.9233	17 50 8.9	10.927	22	16 35 30.82	2.1324	24 57 14.5	4.535
23	15 0 11.62	1.9272	S. 18° 1' 2.5	10.857	23	16 37 38.90	2.1368	S. 25° 3' 43.2	4.423
SATURDAY 22.					MONDAY 24.				
0	15 2 7.37	1.9312	S. 18° 11' 51.8	10.785	0	16 39 47.24	2.1411	S. 25° 10' 5.2	6.310
1	15 4 3.36	1.9352	18 22 36.7	10.719	1	16 41 55.84	2.1454	25 16 20.4	6.196
2	15 5 59.59	1.9392	18 33 17.2	10.653	2	16 44 4.69	2.1497	25 22 28.7	6.081
3	15 7 56.07	1.9433	18 43 53.3	10.584	3	16 46 13.80	2.1539	25 28 30.1	5.965
4	15 9 52.79	1.9473	18 54 24.9	10.468	4	16 48 23.16	2.1582	25 34 24.5	5.849
5	15 11 49.75	1.9514	19 4 51.9	10.411	5	16 50 32.78	2.1624	25 40 11.9	5.732
6	15 13 46.96	1.9556	19 15 14.2	10.334	6	16 52 42.65	2.1666	25 45 52.3	5.614
7	15 15 44.42	1.9598	19 25 31.9	10.256	7	16 54 52.77	2.1707	25 51 25.6	5.495
8	15 17 42.13	1.9640	19 35 44.9	10.177	8	16 57 3.13	2.1747	25 56 51.7	5.376
9	15 19 40.10	1.9682	19 45 53.2	10.098	9	16 59 13.74	2.1788	26 2 10.7	5.256
10	15 21 38.32	1.9724	19 55 56.7	10.017	10	17 1 24.59	2.1828	26 7 22.4	5.134
11	15 23 36.79	1.9767	20 5 55.3	9.935	11	17 3 35.68	2.1867	26 12 26.8	5.012
12	15 25 35.52	1.9810	20 15 48.9	9.853	12	17 5 47.00	2.1907	26 17 23.9	4.890
13	15 27 34.51	1.9853	20 25 37.6	9.770	13	17 7 58.56	2.1946	26 22 13.6	4.767
14	15 29 33.76	1.9896	20 35 21.3	9.686	14	17 10 10.35	2.1985	26 26 55.9	4.643
15	15 31 33.26	1.9939	20 44 59.9	9.600	15	17 12 22.38	2.2023	26 31 30.8	4.519
16	15 33 33.03	1.9983	20 54 33.3	9.514	16	17 14 34.63	2.2061	26 35 58.2	4.393
17	15 35 33.06	2.0027	21 4 1.6	9.428	17	17 16 47.11	2.2098	26 40 18.0	4.267
18	15 37 33.36	2.0072	21 13 24.7	9.341	18	17 18 59.81	2.2135	26 44 30.2	4.140
19	15 39 33.92	2.0116	21 22 42.5	9.255	19	17 21 12.73	2.2171	26 48 34.8	4.013
20	15 41 34.75	2.0160	21 31 54.9	9.169	20	17 23 25.86	2.2207	26 52 31.8	3.886
21	15 43 35.84	2.0204	21 41 1.9	9.073	21	17 25 39.21	2.2243	26 56 21.1	3.757
22	15 45 37.20	2.0249	21 50 3.5	8.981	22	17 27 52.77	2.2277	27 0 2.6	3.627
23	15 47 38.83	2.0294	21 58 59.6	8.889	23	17 30 6.53	2.2310	27 3 36.3	3.498
24	15 49 40.73	2.0339	S. 22° 7' 50.2	8.797	24	17 32 20.49	2.2344	S. 27° 7' 2.3	3.368

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 25.					THURSDAY 27.				
0	17 32 20.49	2.9344	S. 27° 7' 2.3"	3.368	0	19 22 10.14	2.3131	S. 27° 9' 10.7"	3.394
1	17 34 34.66	2.9377	27 10 20.4	3.236	1	19 24 28.92	2.3126	27 5 42.7	3.540
2	17 36 49.02	2.9409	27 13 30.6	3.103	2	19 26 47.68	2.3124	27 2 5.9	3.686
3	17 39 3.57	2.9441	27 16 32.8	2.971	3	19 29 6.41	2.3120	26 58 20.4	3.831
4	17 41 18.31	2.9473	27 19 27.1	2.838	4	19 31 25.12	2.3116	26 54 26.2	3.975
5	17 43 33.24	2.9503	27 22 13.4	2.705	5	19 33 43.81	2.3112	26 50 23.4	4.120
6	17 45 48.35	2.9533	27 24 51.7	2.571	6	19 36 2.47	2.3107	26 46 11.8	4.266
7	17 48 3.64	2.9562	27 27 21.9	2.436	7	19 38 21.09	2.3100	26 41 51.5	4.410
8	17 50 19.10	2.9591	27 29 44.0	2.301	8	19 40 39.67	2.3093	26 37 22.6	4.554
9	17 52 34.73	2.9619	27 31 58.0	2.165	9	19 42 58.20	2.3085	26 32 45.0	4.698
10	17 54 50.53	2.9647	27 34 3.8	2.028	10	19 45 16.69	2.3077	26 27 58.8	4.843
11	17 57 6.49	2.9673	27 36 1.4	1.891	11	19 47 35.12	2.3068	26 23 3.9	4.987
12	17 59 22.61	2.9699	27 37 50.8	1.754	12	19 49 53.50	2.3058	26 18 0.4	5.130
13	18 1 38.88	2.9724	27 39 31.9	1.617	13	19 52 11.82	2.3048	26 12 48.3	5.273
14	18 3 55.30	2.9749	27 41 4.8	1.479	14	19 54 30.08	2.3037	26 7 27.6	5.417
15	18 6 11.87	2.9773	27 42 29.4	1.340	15	19 56 48.27	2.3026	26 1 58.3	5.560
16	18 8 28.58	2.9796	27 43 45.6	1.201	16	19 59 6.39	2.3014	25 56 20.4	5.702
17	18 10 45.42	2.9818	27 44 53.5	1.062	17	20 1 24.43	2.3001	25 50 34.0	5.845
18	18 13 2.39	2.9839	27 45 53.0	0.922	18	20 3 42.40	2.2988	25 44 39.0	5.987
19	18 15 19.49	2.9860	27 46 44.1	0.782	19	20 6 0.29	2.2974	25 38 35.5	6.129
20	18 17 36.71	2.9881	27 47 26.8	0.641	20	20 8 18.09	2.2960	25 32 23.5	6.270
21	18 19 54.06	2.9901	27 48 1.0	0.499	21	20 10 35.81	2.2946	25 26 3.1	6.411
22	18 22 11.52	2.9919	27 48 26.7	0.358	22	20 12 53.44	2.2931	25 19 34.2	6.552
23	18 24 29.08	2.9936	S. 27° 48' 43.9"	0.216	23	20 15 10.98	2.2915	S. 25° 12' 56.9"	6.693
WEDNESDAY 26.					FRIDAY 28.				
0	18 26 46.75	2.9953	S. 27° 48' 52.6"	- 0.074	0	20 17 28.42	2.2899	S. 25° 6' 11.1"	6.832
1	18 29 4.52	2.9970	27 48 52.8	+ 0.068	1	20 19 45.77	2.2882	24 59 17.0	6.973
2	18 31 22.39	2.9986	27 48 44.4	0.911	2	20 22 3.01	2.2865	24 52 14.5	7.111
3	18 33 40.35	2.3001	27 48 27.4	0.754	3	20 24 20.15	2.2847	24 45 3.7	7.249
4	18 35 58.40	2.3014	27 48 1.9	0.497	4	20 26 37.18	2.2830	24 37 44.6	7.387
5	18 38 16.52	2.3027	27 47 27.8	0.641	5	20 28 54.11	2.2812	24 30 17.2	7.525
6	18 40 34.72	2.3039	27 46 45.0	0.785	6	20 31 10.93	2.2793	24 22 41.6	7.663
7	18 42 52.99	2.3051	27 45 53.6	0.928	7	20 33 27.63	2.2774	24 14 57.7	7.800
8	18 45 11.33	2.3062	27 44 53.6	1.072	8	20 35 44.22	2.2756	24 7 5.6	7.936
9	18 47 29.73	2.3073	27 43 44.9	1.217	9	20 38 0.70	2.2737	23 59 5.4	8.071
10	18 49 48.19	2.3082	27 42 27.5	1.362	10	20 40 17.06	2.2716	23 50 57.1	8.206
11	18 52 6.71	2.3091	27 41 1.5	1.506	11	20 42 33.29	2.2695	23 42 40.7	8.341
12	18 54 25.28	2.3098	27 39 26.8	1.651	12	20 44 49.40	2.2675	23 34 16.2	8.476
13	18 56 43.89	2.3105	27 37 43.4	1.796	13	20 47 5.39	2.2654	23 25 43.6	8.609
14	18 59 2.54	2.3111	27 35 51.3	1.942	14	20 49 21.25	2.2633	23 17 3.1	8.742
15	19 1 21.22	2.3116	27 33 50.4	2.087	15	20 51 36.99	2.2611	23 8 14.6	8.874
16	19 3 39.93	2.3120	27 31 40.9	2.231	16	20 53 52.60	2.2591	22 59 18.2	9.006
17	19 5 58.66	2.3124	27 29 22.7	2.377	17	20 56 8.08	2.2570	22 50 13.9	9.137
18	19 8 17.42	2.3128	27 26 55.7	2.522	18	20 58 23.44	2.2549	22 41 1.7	9.268
19	19 10 36.20	2.3130	27 24 20.0	2.667	19	21 0 38.67	2.2527	22 31 41.7	9.398
20	19 12 54.98	2.3131	27 21 35.6	2.812	20	21 2 53.76	2.2504	22 22 13.9	9.528
21	19 15 13.77	2.3132	27 18 42.5	2.958	21	21 5 8.71	2.2481	22 12 38.4	9.657
22	19 17 32.56	2.3132	27 15 40.6	3.104	22	21 7 23.53	2.2459	22 2 55.1	9.785
23	19 19 51.35	2.3132	27 12 30.0	3.249	23	21 9 38.22	2.2437	21 53 4.2	9.913
24	19 22 10.14	2.3131	S. 27° 9' 10.7"	3.394	24	21 11 52.78	2.2415	S. 21° 43' 5.7"	10.039

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.																
SATURDAY 29.					MONDAY 31.																				
0	21 ^h 11 ^m 52.78	2.9415	S. 21° 43' 5.7"	10.038	0	22 ^h 57 ^m 7.65	2.1556	S. 11° 30' 51.2"	15.107																
1	21 14 7.20	2.9399	21 32 59.6	10.164	1	22 59 16.96	2.1548	11 15 42.3	15.188																
2	21 16 21.49	2.9370	21 22 46.0	10.390	2	23 1 26.23	2.1541	11 0 28.6	15.267																
3	21 18 35.64	2.9347	21 12 24.8	10.415	3	23 3 35.45	2.1534	10 45 10.3	15.344																
4	21 20 49.66	2.9325	21 1 56.2	10.538	4	23 5 44.63	2.1528	10 29 47.3	15.421																
5	21 23 3.54	2.9309	20 51 20.2	10.661	5	23 7 53.78	2.1523	10 14 19.7	15.497																
6	21 25 17.28	2.9279	20 40 36.9	10.783	6	23 10 2.91	2.1519	9 58 47.7	15.570																
7	21 27 30.89	2.9257	20 29 46.2	10.905	7	23 12 12.01	2.1515	9 43 11.3	15.643																
8	21 29 44.37	2.9235	20 18 48.3	11.026	8	23 14 21.09	2.1511	9 27 30.5	15.716																
9	21 31 57.71	2.9213	20 7 43.1	11.147	9	23 16 30.14	2.1508	9 11 45.4	15.788																
10	21 34 10.92	2.9191	19 56 30.7	11.266	10	23 18 39.18	2.1506	8 55 56.2	15.854																
11	21 36 24.00	2.9168	19 45 11.2	11.384	11	23 20 48.21	2.1505	8 40 2.9	15.922																
12	21 38 36.94	2.9146	19 33 44.7	11.501	12	23 22 57.24	2.1505	8 24 5.6	15.988																
13	21 40 49.75	2.9124	19 22 11.1	11.618	13	23 25 6.27	2.1505	8 8 4.4	16.053																
14	21 43 2.43	2.9102	19 10 30.5	11.734	14	23 27 15.30	2.1505	7 51 59.3	16.117																
15	21 45 14.98	2.9081	18 58 43.0	11.849	15	23 29 24.33	2.1507	7 35 50.4	16.178																
16	21 47 27.40	2.9060	18 46 48.6	11.963	16	23 31 33.38	2.1509	7 19 37.9	16.238																
17	21 49 39.70	2.9039	18 34 47.4	12.077	17	23 33 42.44	2.1512	7 3 21.8	16.298																
18	21 51 51.87	2.9018	18 22 39.4	12.190	18	23 35 51.52	2.1515	6 47 2.1	16.357																
19	21 54 3.92	2.8997	18 10 24.6	12.302	19	23 38 0.62	2.1520	6 30 39.0	16.413																
20	21 56 15.84	2.8976	17 58 3.2	12.412	20	23 40 9.76	2.1526	6 14 12.6	16.468																
21	21 58 27.63	2.8955	17 45 35.2	12.522	21	23 42 18.93	2.1532	5 57 42.9	16.522																
22	22 0 39.30	2.8936	17 33 0.6	12.631	22	23 44 28.14	2.1538	5 41 10.0	16.573																
23	22 2 50.86	2.8917	S. 17° 20' 19.5"	12.738	23	23 46 37.39	2.1546	S. 5° 24' 34.1"	16.623																
SUNDAY 30.					TUESDAY, NOVEMBER 1.																				
0	22 5 2.30	2.1897	S. 17° 7' 32.0"	12.845	0	23 48 46.69	2.1554	S. 5° 7' 55.2"	16.679																
1	22 7 13.62	2.1878	16 54 38.1	12.952	PHASES OF THE MOON.																				
2	22 9 24.83	2.1859	16 41 37.8	13.057																					
3	22 11 35.93	2.1841	16 28 31.2	13.162																					
4	22 13 46.92	2.1823	16 15 18.4	13.265																					
5	22 15 57.80	2.1805	16 1 59.4	13.367	<table><tr><td>○ Full Moon . . . Oct.</td><td>d</td><td>h</td><td>m</td></tr><tr><td>☾ Last Quarter</td><td>12</td><td>9</td><td>37.5</td></tr><tr><td>● New Moon</td><td>20</td><td>6</td><td>24.0</td></tr><tr><td>☾ First Quarter</td><td>28</td><td>9</td><td>26.3</td></tr></table>					○ Full Moon . . . Oct.	d	h	m	☾ Last Quarter	12	9	37.5	● New Moon	20	6	24.0	☾ First Quarter	28	9	26.3
○ Full Moon . . . Oct.	d	h	m																						
☾ Last Quarter	12	9	37.5																						
● New Moon	20	6	24.0																						
☾ First Quarter	28	9	26.3																						
6	22 18 8.58	2.1787	15 48 34.4	13.468	<table><tr><td>☾ Perigee Oct.</td><td>d</td><td>h</td></tr><tr><td>☾ Apogee</td><td>21</td><td>15.6</td></tr></table>					☾ Perigee Oct.	d	h	☾ Apogee	21	15.6										
☾ Perigee Oct.	d	h																							
☾ Apogee	21	15.6																							
7	22 20 19.25	2.1771	15 35 3.3	13.568																					
8	22 22 29.83	2.1755	15 21 26.2	13.667																					
9	22 24 40.31	2.1739	15 7 43.2	13.765																					
10	22 26 50.69	2.1723	14 53 54.4	13.863																					
11	22 29 0.98	2.1707	14 39 59.7	13.959																					
12	22 31 11.18	2.1692	14 25 59.3	14.053																					
13	22 33 21.29	2.1678	14 11 53.3	14.147																					
14	22 35 31.32	2.1665	13 57 41.6	14.241																					
15	22 37 41.27	2.1652	13 43 24.4	14.333																					
16	22 39 51.14	2.1639	13 29 1.7	14.423																					
17	22 42 0.93	2.1626	13 14 33.6	14.513																					
18	22 44 10.65	2.1614	13 0 0.1	14.602																					
19	22 46 20.30	2.1603	12 45 21.4	14.689																					
20	22 48 29.89	2.1592	12 30 37.5	14.775																					
21	22 50 39.41	2.1582	12 15 48.4	14.860																					
22	22 52 48.88	2.1573	12 0 54.3	14.943																					
23	22 54 58.29	2.1564	11 45 55.2	15.026																					
24	22 57 7.65	2.1556	S. 11° 30' 51.2"	15.107																					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Antares W.	56° 47' 53"	9579	58° 27' 27"	9553	60° 7' 27"	9534	61° 47' 53"	9515
	α Pegasi E.	52 8 21	9901	50 42 13	9914	49 16 20	9930	47 50 46	9946
	JUPITER E.	76 1 22	9596	74 20 45	9598	72 39 43	9489	70 58 14	9470
	α Arietis E.	91 46 13	9636	90 8 7	9618	88 29 36	9599	86 50 39	9598
2	Antares W.	70 16 42	9490	71 59 48	9401	73 43 21	9369	75 27 21	9364
	JUPITER E.	62 24 14	9377	60 40 6	9358	58 55 31	9339	57 10 29	9321
	α Arietis E.	78 29 34	9488	76 48 4	9471	75 6 10	9453	73 23 51	9438
	Aldebaran E.	108 46 24	9465	107 4 21	9445	105 21 51	9496	103 38 54	9497
3	Antares W.	84 14 0	9274	86 0 38	9257	87 47 41	9240	89 35 9	9223
	α Aquilæ W.	46 14 11	9281	47 21 21	9147	48 30 37	9097	49 41 50	9015
	JUPITER E.	48 18 40	9333	46 31 0	9214	44 42 54	9196	42 54 23	9182
	α Arietis E.	64 46 20	9356	63 1 42	9342	61 16 43	9398	59 31 24	9314
4	Aldebaran E.	94 57 21	9315	93 11 43	9298	91 25 40	9281	89 39 12	9264
4	α Aquilæ W.	56 3 40	9478	57 24 29	9409	58 46 35	9347	60 9 52	9289
	MARS W.	34 13 51	9256	36 0 56	9241	37 48 22	9298	39 36 8	9214
	JUPITER E.	33 45 50	9105	31 54 59	9099	30 3 48	9079	28 12 17	9066
	α Arietis E.	50 40 24	9292	48 53 29	9256	47 6 24	9249	45 19 10	9245
5	Aldebaran E.	80 41 1	9189	78 52 17	9176	77 3 14	9164	75 13 52	9151
5	α Aquilæ W.	67 21 36	9063	68 50 31	9029	70 20 8	9097	71 50 24	9069
	MARS W.	48 39 31	9160	50 28 59	9151	52 18 41	9143	54 8 35	9136
	Fomalhaut W.	34 4 22	9052	35 42 7	9090	37 21 16	9037	39 1 38	9089
	Aldebaran E.	66 2 50	9103	64 11 56	9096	62 20 50	9090	60 29 35	9085
6	α Aquilæ W.	79 29 26	9870	81 2 23	9858	82 35 36	9848	84 9 1	9841
	MARS W.	63 20 31	9109	65 11 16	9107	67 2 5	9105	68 52 57	9103
	Fomalhaut W.	47 37 32	9299	49 22 49	9308	51 8 37	9289	52 54 52	9273
	Aldebaran E.	51 11 48	9073	49 20 8	9075	47 28 30	9077	45 36 56	9061
7	Pollux E.	94 49 9	9001	92 55 36	1996	91 1 59	1996	89 8 18	1994
7	MARS W.	78 7 23	9109	79 58 9	9113	81 48 49	9116	83 39 23	9121
	Fomalhaut W.	61 50 58	9225	63 38 49	9290	65 26 46	9218	67 14 47	9216
	α Pegasi W.	44 10 57	9801	45 45 23	9753	47 20 53	9719	48 57 17	9677
8	Pollux E.	79 39 40	1998	77 46 3	9001	75 52 30	9005	73 59 3	9016
8	Fomalhaut W.	76 14 46	9229	78 2 31	9234	79 50 8	9241	81 37 35	9249
	α Pegasi W.	57 9 5	9566	58 48 47	9553	60 28 46	9544	62 8 58	9536
	JUPITER W.	26 53 24	9001	28 46 56	9010	30 40 15	9019	32 33 20	9026
9	Pollux E.	64 33 58	9049	62 41 29	9051	60 49 14	9060	58 57 13	9070
	Regulus E.	101 4 39	9053	99 12 28	9062	97 20 30	9071	95 28 46	9081
	VENUS E.	103 26 16	9285	101 42 20	9294	99 58 37	9404	98 15 8	9415
9	Fomalhaut W.	90 31 28	9301	92 17 26	9315	94 3 4	9398	95 48 22	9398
	α Pegasi W.	70 31 20	9533	72 11 47	9538	73 52 8	9543	75 32 21	9550
	JUPITER W.	41 54 47	9063	43 46 12	9096	45 37 17	9109	47 28 3	9129
	α Arietis W.	26 54 32	9455	28 36 49	9430	30 19 41	9412	32 2 58	9401
9	Pollux E.	49 41 8	9196	47 50 48	9139	46 0 48	9159	44 11 8	9165
	Regulus E.	86 14 3	9136	84 23 59	9149	82 34 15	9162	80 44 50	9175
	VENUS E.	89 41 38	9474	87 59 48	9488	86 18 18	9502	84 37 7	9516

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Antares W.	63° 28' 46"	2406	65° 10' 5"	2477	66° 51' 51"	2458	68° 34' 3"	2439
	α Pegasi E.	46 25 34	2379	45 0 50	3301	43 36 40	3336	42 13 10	3376
	JUPITER E.	69 16 19	2452	67 33 58	2433	65 51 10	2414	64 7 55	2396
	α Arietis E.	85 11 17	2561	83 31 29	2543	81 51 16	2525	80 10 38	2507
2	Antares W.	77 11 48	2346	78 56 41	2327	80 42 1	2309	82 27 47	2291
	JUPITER E.	55 25 0	2303	53 39 5	2285	51 52 43	2267	50 5 55	2249
	α Arietis E.	71 41 8	2419	69 58 1	2403	68 14 30	2387	66 30 36	2371
	Aldebaran E.	101 55 29	2388	100 11 37	2369	98 27 18	2351	96 42 33	2333
3	Antares W.	91 23 2	2307	93 11 19	2192	94 59 59	2176	96 49 2	2161
	α Aquilæ W.	50 54 55	3813	52 9 44	3718	53 26 12	3632	54 44 12	3551
	JUPITER E.	41 5 28	2165	39 16 8	2150	37 26 25	2135	35 36 19	2120
	α Arietis E.	57 45 45	2302	55 59 48	2291	54 13 35	2280	52 27 6	2271
	Aldebaran E.	87 52 20	2248	86 5 4	2233	84 17 25	2218	82 29 24	2203
4	α Aquilæ W.	61 34 16	3226	62 59 43	3187	64 26 8	3142	65 53 27	3101
	MARS W.	41 24 14	2202	43 12 38	2191	45 1 19	2180	46 50 17	2169
	JUPITER E.	26 20 26	2054	24 28 16	2043	22 35 49	2039	20 43 5	2031
	α Arietis E.	43 31 50	2243	41 44 26	2243	39 57 3	2245	38 9 43	2250
	Aldebaran E.	73 24 11	2140	71 34 13	2130	69 44 0	2120	67 53 32	2111
5	α Aquilæ W.	73 21 16	2244	74 52 39	2221	76 24 31	2201	77 56 48	2285
	MARS W.	55 58 40	2129	57 48 55	2122	59 39 20	2118	61 29 52	2113
	Fomalhaut W.	40 43 6	2449	42 25 31	2412	44 8 48	2381	45 52 50	2353
	Aldebaran E.	58 38 12	2080	56 46 42	2077	54 55 7	2074	53 3 28	2073
6	α Aquilæ W.	85 42 36	2836	87 16 17	2833	88 50 2	2833	90 23 47	2835
	MARS W.	70 43 51	2103	72 34 46	2103	74 25 40	2104	76 16 33	2106
	Fomalhaut W.	54 41 31	2260	56 28 30	2248	58 15 46	2239	60 3 16	2231
	Aldebaran E.	43 45 28	2087	41 54 9	2094	40 3 1	2103	38 12 7	2115
	Pollux E.	87 14 34	1994	85 20 50	1993	83 27 5	1994	81 33 21	1996
7	MARS W.	85 29 50	2127	87 20 8	2133	89 10 17	2140	91 0 15	2148
	Fomalhaut W.	69 2 50	2216	70 50 53	2217	72 38 55	2220	74 26 53	2223
	α Pegasi W.	50 34 28	2646	52 12 20	2621	53 50 47	2599	55 29 43	2580
	Pollux E.	72 5 44	2015	70 12 33	2021	68 19 31	2027	66 26 39	2034
8	Fomalhaut W.	83 24 50	2258	85 11 52	2267	86 58 40	2278	88 45 12	2288
	α Pegasi W.	63 49 19	2533	65 29 47	2530	67 10 18	2530	68 50 50	2531
	JUPITER W.	34 26 10	2038	36 18 45	2049	38 11 3	2060	40 3 4	2072
	Pollux E.	57 5 27	2080	55 13 57	2090	53 22 43	2102	51 31 47	2113
	Regulus E.	93 37 17	2090	91 46 3	2101	89 55 6	2113	88 4 26	2124
	VENUS E.	96 31 54	2425	94 48 55	2436	93 6 12	2448	91 23 46	2461
9	Fomalhaut W.	97 33 20	2357	99 17 56	2374	101 2 8	2391	102 45 56	2408
	α Pegasi W.	77 12 25	2559	78 52 17	2567	80 31 57	2577	82 11 23	2589
	JUPITER W.	49 18 29	2136	51 8 34	2149	52 58 18	2164	54 47 40	2178
	α Arietis W.	33 46 32	2393	35 30 17	2388	37 14 9	2387	38 58 3	2387
	Pollux E.	42 21 48	2179	40 32 49	2194	38 44 12	2206	36 55 57	2224
	Regulus E.	78 55 45	2189	77 7 1	2203	75 18 38	2218	73 30 37	2233
	VENUS E.	82 56 16	2531	81 15 46	2546	79 35 37	2562	77 55 50	2577

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	α Pegasi	W.	83° 50' 33"	2601	85° 29' 26"	2615	87° 8' 1"	2629	88° 46' 17"	2644
	JUPITER	W.	56 36 41	2192	58 25 20	2208	60 13 36	2223	62 1 30	2238
	α Arietis	W.	40 41 56	2390	42 25 45	2395	44 9 27	2401	45 53 0	2409
	Pollux	E.	35 8 5	2239	33 20 36	2254	31 33 29	2270	29 46 45	2286
	Regulus	E.	71 42 59	2248	69 55 43	2254	68 8 50	2279	66 22 20	2295
	VENUS	E.	76 16 24	2504	74 37 21	2610	72 58 40	2627	71 20 22	2644
11	JUPITER	W.	70 55 14	2316	72 40 50	2332	74 26 3	2348	76 10 53	2364
	α Arietis	W.	54 27 39	2459	56 9 50	2471	57 51 44	2484	59 33 20	2496
	Regulus	E.	57 35 44	2378	55 51 37	2394	54 7 53	2410	52 24 33	2426
	VENUS	E.	63 14 42	2732	61 38 45	2750	60 3 11	2768	58 28 1	2785
	SUN	E.	107 47 13	2680	106 10 6	2696	104 33 21	2713	102 56 59	2731
12	JUPITER	W.	84 49 19	2443	86 31 53	2458	88 14 6	2473	89 55 57	2488
	α Arietis	W.	67 56 49	2564	69 36 34	2577	71 16 0	2591	72 55 7	2606
	Aldebaran	W.	37 41 14	2600	39 20 9	2607	40 58 54	2616	42 37 27	2625
	Regulus	E.	43 54 0	2514	42 13 6	2539	40 32 37	2549	38 52 32	2567
	VENUS	E.	50 38 2	2876	49 5 12	2894	47 32 45	2912	46 0 41	2929
	SUN	E.	95 0 50	2816	93 26 43	2833	91 52 58	2849	90 19 34	2866
13	α Arietis	W.	81 5 54	2675	82 43 7	2689	84 20 2	2703	85 56 38	2716
	Aldebaran	W.	50 46 54	2678	52 24 4	2689	54 0 59	2700	55 37 39	2711
	SUN	E.	82 37 50	2946	81 6 30	2963	79 35 29	2977	78 4 48	2992
14	α Arietis	W.	93 55 13	2782	95 30 4	2795	97 4 39	2808	98 38 57	2821
	Aldebaran	W.	63 37 12	2768	65 12 22	2779	66 47 18	2789	68 22 0	2801
	Pollux	W.	19 18 18	2729	20 54 20	2739	22 30 8	2750	24 5 42	2760
	SUN	E.	70 35 54	3063	69 6 59	3077	67 38 21	3090	66 9 59	3102
15	Aldebaran	W.	76 12 0	2852	77 45 20	2862	79 18 28	2873	80 51 23	2881
	Pollux	W.	32 0 5	2812	33 34 17	2821	35 8 17	2831	36 42 4	2842
	SUN	E.	58 51 56	3163	57 25 3	3174	55 58 23	3186	54 31 57	3196
16	Aldebaran	W.	88 33 2	2926	90 4 48	2934	91 36 24	2942	93 7 50	2950
	Pollux	W.	44 27 59	2885	46 0 37	2894	47 33 4	2901	49 5 21	2908
	SUN	E.	47 22 49	3246	45 57 34	3255	44 32 30	3264	43 7 36	3273
17	Pollux	W.	56 44 23	2946	58 15 44	2951	59 46 58	2958	61 18 4	2964
	Regulus	W.	20 38 23	3045	22 7 40	3039	23 37 5	3034	25 6 35	3033
	SUN	E.	36 5 34	3313	34 41 37	3319	33 17 48	3326	31 54 7	3334
18	Pollux	W.	68 51 41	2992	70 22 4	2997	71 52 20	3002	73 22 30	3006
	Regulus	W.	32 34 18	3034	34 3 48	3036	35 33 16	3039	37 2 41	3040
	SUN	E.	24 57 41	3366	23 34 46	3372	22 11 57	3378	20 49 15	3384
21	SUN	W.	7 55 42	3473	9 16 36	3470	10 37 34	3467	11 58 35	3465
	α Aquilæ	E.	84 30 10	3923	83 17 14	3930	82 4 25	3937	80 51 43	3946
	MARS	E.	103 36 45	3253	102 11 38	3253	100 46 32	3255	99 21 28	3254
22	SUN	W.	18 44 2	3461	20 5 10	3460	21 26 19	3460	22 47 28	3458
	α Aquilæ	E.	74 50 37	4001	73 38 58	4016	72 27 34	4031	71 16 25	4047
	MARS	E.	92 16 26	3260	90 51 28	3260	89 26 30	3261	88 1 33	3260

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	α Pegasi	W. 90° 24' 12"	2680	92° 1' 46"	2676	93° 38' 58"	2693	95° 15' 47"	2719
	JUPITER	W. 63 49 1	2253	65 36 9	2269	67 22 54	2285	69 9 16	2301
	α Arietis	W. 47 36 22	2417	49 19 32	2426	51 2 29	2436	52 45 12	2448
	Pollux	E. 28 0 25	2302	26 14 29	2319	24 28 57	2337	22 43 52	2356
	Regulus	E. 64 36 13	2811	62 50 30	2828	61 5 11	2844	59 20 16	2860
	VENUS	E. 69 42 27	2661	68 4 55	2679	66 27 47	2697	64 51 3	2714
11	JUPITER	W. 77 55 19	2380	79 39 23	2396	81 23 4	2411	83 6 23	2427
	α Arietis	W. 61 14 39	2509	62 55 40	2526	64 36 22	2543	66 16 45	2560
	Regulus	E. 50 41 38	2445	48 59 7	2462	47 17 0	2480	45 35 18	2497
	VENUS	E. 56 53 14	2804	55 18 51	2821	53 44 51	2840	52 11 15	2858
	SUN	E. 101 21 0	2748	99 45 24	2765	98 10 10	2782	96 35 19	2799
12	JUPITER	W. 91 37 27	2504	93 18 35	2518	94 59 23	2533	96 39 50	2548
	α Arietis	W. 74 33 54	2619	76 12 23	2634	77 50 32	2648	79 28 22	2661
	Aldebaran	W. 44 15 48	2635	45 53 55	2645	47 31 49	2655	49 9 29	2666
	Regulus	E. 37 12 52	2585	35 33 37	2604	33 54 47	2622	32 16 22	2640
	VENUS	E. 44 28 59	2947	42 57 40	2965	41 26 43	2983	39 56 9	3001
	SUN	E. 88 46 32	2883	87 13 51	2898	85 41 30	2915	84 9 30	2931
13	α Arietis	W. 87 32 56	2730	89 8 56	2743	90 44 39	2756	92 20 5	2769
	Aldebaran	W. 57 14 4	2722	58 50 14	2735	60 26 8	2746	62 1 47	2758
	SUN	E. 76 34 25	3006	75 4 20	3022	73 34 34	3035	72 5 5	3050
14	α Arietis	W. 100 12 58	2832	101 46 44	2845	103 20 14	2857	104 53 28	2869
	Aldebaran	W. 69 56 27	2811	71 30 40	2821	73 4 40	2831	74 38 27	2849
	Pollux	W. 25 41 2	2771	27 16 8	2781	28 51 1	2799	30 25 40	2802
	SUN	E. 64 41 52	3115	63 14 1	3128	61 46 25	3139	60 19 3	3152
15	Aldebaran	W. 82 24 6	2891	83 56 37	2899	85 28 57	2909	87 1 5	2917
	Pollux	W. 38 15 38	2851	39 49 0	2859	41 22 11	2868	42 55 11	2877
	SUN	E. 53 5 43	3207	51 39 42	3217	50 13 53	3226	48 48 15	3236
16	Aldebaran	W. 94 39 5	2958	96 10 10	2965	97 41 6	2973	99 11 52	2981
	Pollux	W. 50 37 28	2916	52 9 26	2924	53 41 14	2931	55 12 53	2939
	SUN	E. 41 42 53	3281	40 18 19	3289	38 53 55	3297	37 29 40	3305
17	Pollux	W. 62 49 2	2969	64 19 53	2976	65 50 36	2981	67 21 12	2987
	Regulus	W. 26 36 7	3032	28 5 40	3031	29 35 14	3032	31 4 47	3033
	SUN	E. 30 30 35	3340	29 7 10	3347	27 43 53	3353	26 20 43	3360
18	Pollux	W. 74 52 35	3011	76 22 34	3015	77 52 28	3020	79 22 16	3024
	Regulus	W. 38 32 4	3043	40 1 24	3045	41 30 41	3047	42 59 55	3051
	SUN	E. 19 26 40	3389	18 4 11	3395	16 41 49	3400	15 19 33	3406
21	SUN	W. 13 19 38	3464	14 40 42	3463	16 1 48	3462	17 22 55	3462
	α Aquilæ	E. 79 39 10	3255	78 26 46	3265	77 14 32	3276	76 2 29	3287
	MARS	E. 97 56 25	3258	96 31 24	3259	95 6 24	3259	93 41 25	3259
22	SUN	W. 24 8 39	3457	25 29 51	3455	26 51 5	3454	28 12 21	3453
	α Aquilæ	E. 70 5 32	4066	68 54 57	4064	67 44 40	4105	66 34 43	4197
	MARS	E. 86 36 35	3260	85 11 37	3250	83 46 38	3259	82 21 38	3257

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	SUN	W.	29° 33' 38"	3451	30° 54' 57"	3448	32° 16' 19"	3446	33° 37' 44"	3443
	α Aquilæ	E.	65 25 7	4151	64 15 54	4177	63 7 6	4204	61 58 44	4235
	MARS	E.	80 56 36	3256	79 31 33	3254	78 6 28	3252	76 41 20	3250
	Fomalhaut	E.	91 24 56	3246	89 59 41	3244	88 34 24	3242	87 9 5	3240
24	SUN	W.	40 25 41	3424	41 47 30	3421	43 9 23	3415	44 31 22	3411
	α Aquilæ	E.	56 24 38	4422	55 19 37	4469	54 15 18	4522	53 11 45	4577
	MARS	E.	69 34 58	3235	68 9 30	3231	66 43 58	3227	65 18 21	3223
	Fomalhaut	E.	80 1 52	3230	78 36 18	3228	77 10 42	3225	75 45 3	3224
25	SUN	W.	51 22 51	3379	52 45 31	3372	54 8 19	3365	55 31 16	3357
	α Aquilæ	E.	48 7 18	4937	47 9 33	5030	46 13 1	5132	45 17 48	5245
	MARS	E.	58 8 49	3195	56 42 34	3188	55 16 11	3182	53 49 40	3175
	Fomalhaut	E.	68 36 10	3213	67 10 16	3210	65 44 19	3209	64 18 20	3207
	α Pegasi	E.	89 31 58	3370	88 9 7	3364	86 46 9	3358	85 23 4	3351
26	SUN	W.	62 28 29	3310	63 52 29	3300	65 16 40	3289	66 41 4	3278
	Antares	W.	27 35 26	2951	29 6 40	2940	30 38 8	2930	32 9 49	2918
	MARS	E.	46 34 50	3134	45 7 22	3124	43 39 42	3115	42 11 51	3105
	Fomalhaut	E.	57 7 59	3202	55 41 52	3202	54 15 45	3203	52 49 39	3204
	α Pegasi	E.	78 26 1	3325	77 2 18	3320	75 38 30	3316	74 14 37	3311
	JUPITER	E.	101 58 21	2896	100 25 57	2887	98 53 22	2877	97 20 34	2868
27	SUN	W.	73 46 31	3216	75 12 21	3202	76 38 28	3188	78 4 51	3174
	Antares	W.	39 51 53	2359	41 25 4	2346	42 58 32	2333	44 32 17	2320
	MARS	E.	34 49 28	3052	33 20 19	3040	31 50 56	3028	30 21 18	3017
	Fomalhaut	E.	45 39 53	3226	44 14 15	3225	42 48 47	3246	41 23 32	3259
	α Pegasi	E.	67 14 2	3295	65 49 45	3294	64 25 27	3293	63 1 7	3283
	JUPITER	E.	89 33 11	2811	87 58 58	2798	86 24 28	2786	84 49 42	2772
28	SUN	W.	85 21 15	3096	86 49 29	3079	88 18 4	3063	89 46 59	3046
	Antares	W.	52 25 34	2747	54 1 11	2732	55 37 9	2716	57 13 28	2700
	α Pegasi	E.	55 59 50	3209	54 35 49	3216	53 11 56	3225	51 48 14	3238
	JUPITER	E.	76 51 23	2703	75 14 47	2687	73 37 50	2672	72 0 33	2656
	α Arietis	E.	96 5 25	2811	94 31 12	2796	92 56 39	2780	91 21 45	2765
29	SUN	W.	97 17 1	2955	98 48 10	2936	100 19 43	2916	101 51 41	2898
	Antares	W.	65 20 31	2615	66 59 5	2599	68 38 2	2580	70 17 24	2562
	JUPITER	E.	63 48 39	2574	62 9 8	2556	60 29 13	2539	58 48 54	2521
	α Arietis	E.	83 21 55	2622	81 44 51	2605	80 7 24	2588	78 29 34	2563
30	SUN	W.	109 37 43	2798	111 12 13	2779	112 47 9	2759	114 22 31	2738
	Antares	W.	78 40 31	2470	80 22 26	2452	82 4 47	2433	83 47 34	2415
	JUPITER	E.	50 21 4	2431	48 38 13	2412	46 54 56	2394	45 11 13	2375
	α Arietis	E.	70 14 35	2545	68 34 25	2529	66 53 52	2512	65 12 55	2496
	Aldebaran	E.	100 27 14	2513	98 46 19	2494	97 4 58	2475	95 23 10	2456
31	Antares	W.	92 28 12	2322	94 13 40	2303	95 59 35	2285	97 45 56	2267
	α Aquilæ	W.	51 41 53	3286	52 55 27	3294	54 10 35	3210	55 27 11	3231
	JUPITER	E.	36 25 56	2284	34 39 33	2266	32 52 43	2248	31 5 27	2230
	α Arietis	E.	56 42 36	2419	54 59 28	2405	53 16 0	2391	51 32 13	2379
	Aldebaran	E.	86 47 30	2364	85 3 3	2345	83 18 9	2328	81 32 50	2310

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	SUN	W.	34° 59' 12"	3440	36° 20' 43"	3437	37° 42' 18"	3433	39° 3' 57"	3429
	α Aquilæ	E.	60 50 51	4266	59 43 27	4302	58 36 36	4339	57 30 19	4378
	MARS	E.	75 16 10	3947	73 50 57	3945	72 25 41	3942	71 0 21	3939
	Fomalhaut	E.	85 43 43	3238	84 18 19	3236	82 52 52	3234	81 27 23	3232
24	SUN	W.	45 53 26	3405	47 15 37	3400	48 37 54	3393	50 0 19	3386
	α Aquilæ	E.	52 9 0	4637	51 7 7	4703	50 6 10	4774	49 6 12	4858
	MARS	E.	63 52 39	3918	62 26 51	3913	61 0 57	3907	59 34 56	3902
	Fomalhaut	E.	74 19 22	3221	72 53 38	3219	71 27 51	3217	70 2 2	3214
25	SUN	W.	56 54 22	3348	58 17 38	3339	59 41 4	3330	61 4 41	3320
	α Aquilæ	E.	44 24 0	5369	43 31 43	5504	42 41 2	5655	41 52 5	5694
	MARS	E.	52 23 1	3168	50 56 13	3159	49 29 15	3152	48 2 8	3143
	Fomalhaut	E.	62 52 19	3205	61 26 16	3204	60 0 12	3203	58 34 6	3202
	α Pegasi	E.	83 59 52	3346	82 36 34	3340	81 13 9	3335	79 49 38	3330
26	SUN	W.	68 5 41	3266	69 30 32	3254	70 55 37	3242	72 20 56	3229
	Antares	W.	33 41 45	2907	35 13 55	2896	36 46 19	2884	38 18 58	2872
	MARS	E.	40 43 48	3095	39 15 32	3085	37 47 4	3074	36 18 23	3063
	Fomalhaut	E.	51 23 34	3206	49 57 32	3209	48 31 33	3214	47 5 40	3219
	α Pegasi	E.	72 50 38	3307	71 26 35	3303	70 2 27	3300	68 38 16	3298
	JUPITER	E.	95 47 34	2857	94 14 20	2846	92 40 52	2835	91 7 9	2823
27	SUN	W.	79 31 31	3159	80 58 29	3144	82 25 45	3139	83 53 20	3119
	Antares	W.	46 6 19	2805	47 40 40	2792	49 15 19	2777	50 50 17	2763
	MARS	E.	28 51 26	3005	27 21 19	2993	25 50 57	2981	24 20 20	2969
	Fomalhaut	E.	39 58 32	3276	38 33 52	3295	37 9 35	3290	35 45 47	3250
	α Pegasi	E.	61 36 47	3294	60 12 28	3295	58 48 11	3299	57 23 58	3303
	JUPITER	E.	83 14 38	2760	81 39 17	2746	80 3 38	2732	78 27 40	2717
28	SUN	W.	91 16 15	3028	92 45 53	3010	94 15 53	2993	95 46 15	2973
	Antares	W.	58 50 8	2684	60 27 10	2667	62 4 34	2650	63 42 21	2633
	α Pegasi	E.	50 24 47	3352	49 1 36	3371	47 38 46	3391	46 16 19	3415
	JUPITER	E.	70 22 54	2640	68 44 54	2624	67 6 32	2607	65 27 47	2591
	α Arietis	E.	89 46 31	2748	88 10 55	2732	86 34 57	2715	84 58 37	2698
29	SUN	W.	103 24 3	2878	104 56 50	2859	106 30 2	2838	108 3 40	2819
	Antares	W.	71 57 11	2544	73 37 23	2526	75 18 0	2507	76 59 3	2489
	JUPITER	E.	57 8 10	2504	55 27 2	2485	53 45 28	2467	52 3 29	2449
	α Arietis	E.	76 51 21	2614	75 12 45	2596	73 33 45	2580	71 54 22	2562
30	SUN	W.	115 58 20	2718	117 34 36	2698	119 11 18	2678	120 48 27	2658
	Antares	W.	85 30 48	2396	87 14 29	2378	88 58 36	2359	90 43 10	2339
	JUPITER	E.	43 27 3	2357	41 42 26	2339	39 57 23	2320	38 11 53	2302
	α Arietis	E.	63 31 36	2480	61 49 54	2464	60 7 50	2448	58 25 24	2433
	Aldebaran	E.	93 40 55	2438	91 58 14	2419	90 15 6	2400	88 31 31	2382
31	Antares	W.	99 32 44	2249	101 19 58	2232	103 7 38	2215	104 55 43	2198
	α Aquilæ	W.	56 45 12	3558	58 4 32	3490	59 25 7	3496	60 46 54	3367
	JUPITER	E.	29 17 44	2212	27 29 35	2196	25 41 1	2178	23 52 1	2161
	α Arietis	E.	49 48 8	2368	48 3 47	2357	46 19 11	2348	44 34 21	2339
	Aldebaran	E.	79 47 5	2293	78 0 55	2276	76 14 20	2259	74 27 20	2243

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Tues.	1	^h 14 ^m 28 ^s 33.84	9.819	S. 14° 40' 47.6"	-47.66	16' 9.98"	67.03	16 19.77	0.036
Wed.	2	14 32 29.89	9.853	14 59 44.3	47.06	16 10.23	67.15	16 20.27	0.003
Thur.	3	14 36 26.74	9.887	15 18 26.3	46.44	16 10.48	67.26	16 19.97	0.031
Frid.	4	14 40 24.41	9.921	15 36 53.2	-45.80	16 10.72	67.38	16 18.86	0.065
Sat.	5	14 44 22.92	9.956	15 55 4.6	45.15	16 10.96	67.49	16 16.92	0.100
SUN.	6	14 48 22.26	9.991	16 13 0.1	44.48	16 11.20	67.61	16 14.14	0.135
Mon.	7	14 52 22.45	10.026	16 30 39.4	-43.79	16 11.43	67.73	16 10.51	0.170
Tues.	8	14 56 23.50	10.062	16 48 2.1	43.09	16 11.66	67.85	16 6.03	0.206
Wed.	9	15 0 25.40	10.097	17 5 7.8	42.37	16 11.88	67.97	16 0.69	0.241
Thur.	10	15 4 28.17	10.133	17 21 56.1	-41.64	16 12.10	68.09	15 54.50	0.277
Frid.	11	15 8 31.81	10.169	17 38 26.6	40.89	16 12.32	68.21	15 47.44	0.313
Sat.	12	15 12 36.32	10.206	17 54 38.9	40.12	16 12.53	68.33	15 39.51	0.349
SUN.	13	15 16 41.70	10.243	18 10 32.5	-39.32	16 12.74	68.44	15 30.69	0.386
Mon.	14	15 20 47.96	10.280	18 26 7.1	38.52	16 12.94	68.56	15 21.01	0.423
Tues.	15	15 24 55.08	10.315	18 41 22.4	37.70	16 13.15	68.68	15 10.48	0.458
Wed.	16	15 29 3.06	10.350	18 56 17.9	-36.87	16 13.35	68.80	14 59.10	0.493
Thur.	17	15 33 11.89	10.385	19 10 53.1	36.02	16 13.55	68.92	14 46.86	0.528
Frid.	18	15 37 21.56	10.420	19 25 7.6	35.15	16 13.75	69.03	14 33.78	0.563
Sat.	19	15 41 32.06	10.454	19 39 1.1	-34.26	16 13.95	69.15	14 19.88	0.597
SUN.	20	15 45 43.38	10.488	19 52 33.3	33.36	16 14.14	69.26	14 5.16	0.631
Mon.	21	15 49 55.50	10.521	20 5 43.6	32.44	16 14.33	69.37	13 49.64	0.664
Tues.	22	15 54 8.41	10.554	20 18 31.7	-31.51	16 14.52	69.48	13 33.32	0.697
Wed.	23	15 58 22.10	10.586	20 30 57.2	30.57	16 14.71	69.59	13 16.24	0.729
Thur.	24	16 2 36.55	10.617	20 42 59.9	29.61	16 14.89	69.69	12 58.40	0.760
Frid.	25	16 6 51.74	10.648	20 54 39.3	-28.63	16 15.07	69.79	12 39.82	0.790
Sat.	26	16 11 7.65	10.678	21 5 55.1	27.64	16 15.25	69.89	12 20.51	0.820
SUN.	27	16 15 24.27	10.707	21 16 47.0	26.64	16 15.43	69.99	12 0.50	0.849
Mon.	28	16 19 41.58	10.735	21 27 14.7	-25.62	16 15.60	70.09	11 39.81	0.877
Tues.	29	16 23 59.57	10.762	21 37 17.9	24.59	16 15.76	70.18	11 18.45	0.904
Wed.	30	16 28 18.20	10.789	21 46 56.4	23.55	16 15.92	70.27	10 56.44	0.931
Thur.	31	16 32 37.46	10.815	S. 21 56 9.8	-22.49	16 16.07	70.36	10 33.79	0.957

NOTE.—The mean time of semidiameter passing may be found by subtracting 0^s.19 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
Tues.	1	14 28 36.51	9.820	S. 14 41' 0.6	-47.66	16 19.78	0.036	14 44 56.29
Wed.	2	14 32 32.57	9.853	14 59 57.2	47.05	16 20.27	0.003	14 48 52.84
Thur.	3	14 36 29.43	9.887	15 18 39.0	46.43	16 19.96	0.031	14 52 49.40
Frid.	4	14 40 27.11	9.921	15 37 5.7	-45.79	16 18.84	0.065	14 56 45.95
Sat.	5	14 44 25.62	9.956	15 55 16.9	45.14	16 16.89	0.100	15 0 42.51
SUN.	6	14 48 24.96	9.991	16 13 12.2	44.47	16 14.10	0.135	15 4 39.06
Mon.	7	14 52 25.15	10.026	16 30 51.3	-43.78	16 10.46	0.170	15 8 35.62
Tues.	8	14 56 26.20	10.062	16 48 13.8	43.08	16 5.97	0.206	15 12 32.17
Wed.	9	15 0 28.10	10.097	17 5 19.2	42.36	16 0.63	0.241	15 16 28.73
Thur.	10	15 4 30.86	10.133	17 22 7.2	-41.63	15 54.43	0.277	15 20 25.29
Frid.	11	15 8 34.49	10.169	17 38 37.4	40.88	15 47.36	0.313	15 24 21.85
Sat.	12	15 12 38.99	10.205	17 54 49.4	40.11	15 39.42	0.349	15 28 18.40
SUN.	13	15 16 44.36	10.242	18 10 42.7	-39.33	15 30.60	0.386	15 32 14.96
Mon.	14	15 20 50.60	10.279	18 26 17.0	38.53	15 20.91	0.423	15 36 11.51
Tues.	15	15 24 57.70	10.314	18 41 32.0	37.71	15 10.37	0.458	15 40 8.07
Wed.	16	15 29 5.65	10.340	18 56 27.1	-36.88	14 58.98	0.493	15 44 4.63
Thur.	17	15 33 14.45	10.384	19 11 1.9	36.03	14 46.74	0.528	15 48 1.19
Frid.	18	15 37 24.09	10.419	19 25 16.1	35.16	14 33.65	0.563	15 51 57.74
Sat.	19	15 41 34.56	10.453	19 39 9.3	-34.27	14 19.74	0.597	15 55 54.30
SUN.	20	15 45 45.84	10.487	19 52 41.1	33.37	14 5.02	0.631	15 59 50.86
Mon.	21	15 49 57.93	10.520	20 5 51.1	32.45	13 49.49	0.664	16 3 47.42
Tues.	22	15 54 10.81	10.553	20 18 38.8	-31.52	13 33.16	0.697	16 7 43.97
Wed.	23	15 58 24.45	10.585	20 31 4.0	30.58	13 16.08	0.729	16 11 40.53
Thur.	24	16 2 38.85	10.616	20 43 6.3	29.62	12 58.24	0.760	16 15 37.09
Frid.	25	16 6 53.99	10.646	20 54 45.4	-28.64	12 39.66	0.790	16 19 33.65
Sat.	26	16 11 9.85	10.676	21 6 0.9	27.65	12 20.35	0.820	16 23 30.20
SUN.	27	16 15 26.42	10.705	21 16 52.4	26.65	12 0.34	0.849	16 27 26.76
Mon.	28	16 19 43.67	10.733	21 27 19.7	-25.63	11 39.65	0.877	16 31 23.32
Tues.	29	16 24 1.60	10.760	21 37 22.6	24.60	11 18.28	0.904	16 35 19.88
Wed.	30	16 28 20.17	10.787	21 47 0.7	23.56	10 56.26	0.931	16 39 16.43
Thur.	31	16 32 39.37	10.813	S. 21 56 13.7	-22.50	10 33.62	0.957	16 43 12.99

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 Hour,
+ 9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		DIFF. for 1 Hour.	LATITUDE			
		λ	λ'					
1	306	219° 33' 41.6	33' 11.2	150.24	— 0.18	9.9964130	—47.0	9 13 32.78
2	307	220 33 48.2	33 17.7	150.31	— 0.06	9.9963011	46.3	9 9 36.87
3	308	221 33 56.4	33 25.8	150.38	+ 0.06	9.9961907	45.6	9 5 40.96
4	309	222 34 6.3	33 35.6	150.46	+ 0.20	9.9960820	—44.9	9 1 45.05
5	310	223 34 18.0	33 47.2	150.53	0.33	9.9959750	44.2	8 57 49.14
6	311	224 34 31.6	34 0.6	150.61	0.45	9.9958697	43.5	8 53 53.23
7	312	225 34 47.1	34 15.9	150.68	+ 0.56	9.9957662	—42.8	8 49 57.32
8	313	226 35 4.4	34 33.1	150.76	0.64	9.9956644	42.0	8 46 1.41
9	314	227 35 23.7	34 52.2	150.84	0.69	9.9955644	41.3	8 42 5.50
10	315	228 35 44.9	35 13.2	150.92	+ 0.72	9.9954661	—40.6	8 38 9.59
11	316	229 36 8.0	35 36.1	151.00	0.72	9.9953693	40.0	8 34 13.68
12	317	230 36 33.1	36 1.1	151.08	0.68	9.9952739	39.5	8 30 17.77
13	318	231 37 0.1	36 28.0	151.16	+ 0.62	9.9951799	—39.0	8 26 21.86
14	319	232 37 29.0	36 56.7	151.23	0.53	9.9950871	38.5	8 22 25.95
15	320	233 37 59.8	37 27.3	151.31	0.42	9.9949954	38.0	8 18 30.04
16	321	234 38 32.3	37 59.6	151.38	+ 0.29	9.9949048	—37.5	8 14 34.13
17	322	235 39 6.5	38 33.7	151.45	0.16	9.9948153	37.0	8 10 38.22
18	323	236 39 42.4	39 9.5	151.52	+ 0.03	9.9947269	36.6	8 6 42.31
19	324	237 40 19.9	39 46.8	151.59	— 0.10	9.9946394	—36.2	8 2 46.39
20	325	238 40 58.9	40 25.6	151.65	0.23	9.9945529	35.8	7 58 50.48
21	326	239 41 39.2	41 5.8	151.70	0.33	9.9944674	35.4	7 54 54.57
22	327	240 42 20.8	41 47.2	151.75	— 0.40	9.9943830	—34.9	7 50 58.66
23	328	241 43 3.5	42 29.7	151.80	0.44	9.9942998	34.4	7 47 2.74
24	329	242 43 47.3	43 13.3	151.85	0.46	9.9942179	33.8	7 43 6.83
25	330	243 44 32.2	43 58.0	151.90	— 0.45	9.9941374	—33.2	7 39 10.92
26	331	244 45 18.2	44 43.8	151.94	0.41	9.9940585	32.5	7 35 15.01
27	332	245 46 5.2	45 30.7	151.98	0.34	9.9939814	31.7	7 31 19.10
28	333	246 46 53.1	46 18.4	152.02	— 0.25	9.9939062	—30.9	7 27 23.19
29	334	247 47 41.9	47 7.0	152.06	0.14	9.9938330	30.0	7 23 27.28
30	335	248 48 31.6	47 56.5	152.09	— 0.01	9.9937621	29.1	7 19 31.37
31	336	249 49 22.2	48 46.9	152.13	+ 0.12	9.9936934	—28.1	7 15 35.45
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 14.0.								Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	16 21.4	16 28.2	59 55.4	+2.15	60 20.1	+1.94	9 22.6	2.06	11.7
2	16 34.1	16 39.1	60 41.9	1.67	61 0.1	1.35	10 13.0	2.13	12.7
3	16 42.9	16 45.4	61 14.2	0.98	61 23.5	+0.57	11 5.8	2.26	13.7
4	16 46.6	16 46.4	61 27.9	+0.15	61 27.0	-0.30	12 2.1	2.41	14.7
5	16 44.7	16 41.7	61 20.9	-0.71	61 9.9	1.11	13 2.3	2.57	15.7
6	16 37.5	16 32.2	60 54.3	1.46	60 34.8	1.77	14 5.6	2.66	16.7
7	16 26.0	16 19.0	60 12.0	-2.01	59 46.5	-2.20	15 9.9	2.64	17.7
8	16 11.6	16 3.8	59 19.2	2.32	58 50.8	2.39	16 12.1	2.50	18.7
9	15 56.0	15 48.2	58 21.9	2.40	57 53.2	2.37	17 10.0	2.29	19.7
10	15 40.5	15 33.2	57 25.1	-2.30	56 58.2	-2.19	18 2.6	2.08	20.7
11	15 26.2	15 19.7	56 32.7	2.06	56 8.9	1.91	18 50.3	1.89	21.7
12	15 13.8	15 8.4	55 46.9	1.75	55 27.1	1.57	19 34.2	1.76	22.7
13	15 3.5	14 59.2	55 9.3	-1.40	54 53.5	-1.23	20 15.3	1.67	23.7
14	14 55.5	14 52.4	54 39.9	1.05	54 28.4	0.88	20 55.0	1.64	24.7
15	14 49.8	14 47.7	54 18.8	0.73	54 11.0	0.56	21 34.5	1.64	25.7
16	14 46.0	14 44.9	54 5.0	-0.43	54 0.7	-0.30	22 14.7	1.70	26.7
17	14 44.1	14 43.8	53 58.0	-0.17	53 56.8	-0.05	22 56.6	1.79	27.7
18	14 43.8	14 44.2	53 56.9	+0.07	53 58.3	+0.17	23 40.9	1.90	28.7
19	14 44.9	14 46.0	54 1.0	+0.28	54 4.9	+0.38	♄		0.0
20	14 47.4	14 49.2	54 10.1	0.48	54 16.5	0.58	0 28.2	2.02	1.0
21	14 51.2	14 53.6	54 24.1	0.68	54 32.9	0.79	1 18.2	2.13	2.0
22	14 56.4	14 59.6	54 43.1	+0.91	54 54.7	+1.02	2 10.3	2.19	3.0
23	15 3.1	15 7.0	55 7.6	1.14	55 22.1	1.27	3 3.4	2.21	4.0
24	15 11.4	15 16.1	55 38.0	1.39	55 55.5	1.52	3 56.1	2.16	5.0
25	15 21.3	15 26.9	56 14.5	+1.65	56 35.0	+1.77	4 47.5	2.09	6.0
26	15 32.8	15 39.1	56 56.9	1.88	57 20.0	1.97	5 37.0	2.02	7.0
27	15 45.7	15 52.5	57 44.2	2.05	58 9.2	2.10	6 25.1	1.97	8.0
28	15 59.4	16 6.3	58 34.6	+2.11	58 59.9	+2.09	7 12.4	1.96	9.0
29	16 13.1	16 19.5	59 24.7	2.02	59 48.4	1.90	8 0.2	2.01	10.0
30	16 25.5	16 30.8	60 10.3	1.73	60 29.9	1.50	8 49.9	2.12	11.0
31	16 35.3	16 38.9	60 46.4	+1.23	60 59.4	+0.90	9 42.9	2.29	12.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 1.					THURSDAY 3.				
0	^h 23 ^m 48 ^s 46.69	2.1554	S. 5° 7' 55.2"	16.672	0	^h 1 ^m 34 ^s 43.97	2.2909	N. 8° 36' 48.6"	16.974
1	23 50 56.04	2.1563	4 51 13.4	16.730	1	1 37 1.57	2.2956	8 53 45.8	16.932
2	23 53 5.45	2.1572	4 34 28.8	16.766	2	1 39 19.45	2.3004	9 10 40.4	16.887
3	23 55 14.91	2.1583	4 17 41.5	16.811	3	1 41 37.62	2.3053	9 27 32.3	16.841
4	23 57 24.44	2.1595	4 0 51.5	16.854	4	1 43 56.09	2.3104	9 44 21.3	16.798
5	23 59 34.05	2.1607	3 43 59.0	16.895	5	1 46 14.87	2.3155	10 1 7.3	16.741
6	0 1 43.73	2.1620	3 27 4.1	16.935	6	1 48 33.95	2.3206	10 17 50.2	16.687
7	0 3 53.49	2.1634	3 10 6.8	16.973	7	1 50 53.34	2.3257	10 34 29.8	16.632
8	0 6 3.34	2.1648	2 53 7.3	17.009	8	1 53 13.04	2.3310	10 51 6.0	16.574
9	0 8 13.27	2.1663	2 36 5.7	17.044	9	1 55 33.06	2.3363	11 7 38.7	16.514
10	0 10 23.30	2.1680	2 19 2.0	17.077	10	1 57 53.40	2.3417	11 24 7.7	16.452
11	0 12 33.43	2.1698	2 1 56.4	17.108	11	2 0 14.07	2.3472	11 40 32.9	16.387
12	0 14 43.67	2.1716	1 44 49.0	17.138	12	2 2 35.06	2.3526	11 56 54.2	16.321
13	0 16 54.02	2.1734	1 27 39.8	17.167	13	2 4 56.38	2.3581	12 13 11.4	16.255
14	0 19 4.48	2.1753	1 10 29.0	17.193	14	2 7 18.04	2.3637	12 29 24.4	16.189
15	0 21 15.05	2.1773	0 53 16.6	17.218	15	2 9 40.03	2.3694	12 45 33.0	16.126
16	0 23 25.75	2.1795	0 36 2.8	17.241	16	2 12 2.37	2.3751	13 1 37.1	16.060
17	0 25 36.59	2.1817	0 18 47.7	17.262	17	2 14 25.05	2.3808	13 17 36.6	15.992
18	0 27 47.56	2.1840	S. 0 1 31.3	17.282	18	2 16 48.07	2.3866	13 33 31.3	15.871
19	0 29 58.67	2.1864	N. 0 15 46.2	17.300	19	2 19 11.44	2.3925	13 49 21.1	15.788
20	0 32 9.93	2.1888	0 33 4.7	17.315	20	2 21 35.17	2.3984	14 5 5.9	15.703
21	0 34 21.33	2.1913	0 50 24.0	17.329	21	2 23 59.25	2.4043	14 20 45.5	15.616
22	0 36 32.89	2.1940	1 7 44.1	17.342	22	2 26 23.69	2.4102	14 36 19.8	15.527
23	0 38 44.61	2.1967	N. 1 25 5.0	17.353	23	2 28 48.48	2.4162	N. 14 51 48.7	15.435
WEDNESDAY 2.					FRIDAY 4.				
0	0 40 56.49	2.1994	N. 1 42 26.5	17.368	0	2 31 13.63	2.4222	N. 15 7 12.0	15.340
1	0 43 8.54	2.2023	1 59 48.4	17.368	1	2 33 39.14	2.4283	15 22 29.5	15.243
2	0 45 20.77	2.2053	2 17 10.6	17.373	2	2 36 5.02	2.4344	15 37 41.2	15.145
3	0 47 33.18	2.2083	2 34 33.1	17.376	3	2 38 31.27	2.4406	15 52 46.9	15.043
4	0 49 45.77	2.2114	2 51 55.7	17.377	4	2 40 57.89	2.4467	16 7 46.4	14.940
5	0 51 58.55	2.2147	3 9 18.3	17.375	5	2 43 24.88	2.4528	16 22 39.7	14.835
6	0 54 11.53	2.2180	3 26 40.7	17.373	6	2 45 52.23	2.4590	16 37 26.6	14.727
7	0 56 24.71	2.2213	3 44 2.9	17.368	7	2 48 19.96	2.4652	16 52 6.9	14.616
8	0 58 38.09	2.2247	4 1 24.8	17.363	8	2 50 48.06	2.4714	17 6 40.5	14.503
9	1 0 51.68	2.2282	4 18 46.3	17.353	9	2 53 16.53	2.4776	17 21 7.3	14.389
10	1 3 5.48	2.2318	4 36 7.2	17.349	10	2 55 45.37	2.4838	17 35 27.2	14.272
11	1 5 19.50	2.2356	4 53 27.3	17.338	11	2 58 14.59	2.4901	17 49 39.9	14.153
12	1 7 33.75	2.2394	5 10 46.6	17.314	12	3 0 44.18	2.4963	18 3 45.4	14.031
13	1 9 48.23	2.2432	5 28 5.0	17.297	13	3 3 14.14	2.5025	18 17 43.6	13.907
14	1 12 2.94	2.2472	5 45 22.3	17.278	14	3 5 44.48	2.5087	18 31 34.2	13.780
15	1 14 17.89	2.2512	6 2 38.4	17.257	15	3 8 15.19	2.5149	18 45 17.2	13.652
16	1 16 33.09	2.2553	6 19 53.2	17.234	16	3 10 46.27	2.5211	18 58 52.5	13.522
17	1 18 48.53	2.2594	6 37 6.5	17.208	17	3 13 17.72	2.5273	19 12 19.9	13.390
18	1 21 4.22	2.2637	6 54 18.2	17.181	18	3 15 49.55	2.5335	19 25 39.3	13.255
19	1 23 20.17	2.2681	7 11 28.2	17.152	19	3 18 21.74	2.5396	19 38 50.5	13.118
20	1 25 36.39	2.2725	7 28 36.4	17.121	20	3 20 54.30	2.5457	19 51 53.5	12.980
21	1 27 52.87	2.2770	7 45 42.7	17.087	21	3 23 27.22	2.5517	20 4 48.1	12.839
22	1 30 9.63	2.2816	8 2 46.9	17.053	22	3 26 0.50	2.5577	20 17 34.2	12.696
23	1 32 26.66	2.2863	8 19 48.9	17.014	23	3 28 34.14	2.5638	20 30 11.6	12.550
24	1 34 43.97	2.2909	N. 8 36 48.6	16.974	24	3 31 8.15	2.5698	N. 20 42 40.2	12.403

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 5.					MONDAY 7.				
0	^h 3 ^m 31 ^s 8.15	2.5698	N.20° 42' 40.2"	12.403	0	^h 5 ^m 39 ^s 38.52	2.7335	N.27° 16' 58.4"	3.575
1	3 33 42.52	2.5756	20 55 0.0	12.254	1	5 42 22.52	2.7331	27 20 26.8	3.371
2	3 36 17.23	2.5814	21 7 10.7	12.109	2	5 45 6.49	2.7326	27 23 42.9	3.166
3	3 38 52.29	2.5872	21 19 12.3	11.949	3	5 47 50.42	2.7317	27 26 46.7	2.962
4	3 41 27.70	2.5930	21 31 4.6	11.794	4	5 50 34.29	2.7307	27 29 38.3	2.759
5	3 44 3.45	2.5987	21 42 47.6	11.637	5	5 53 18.10	2.7296	27 32 17.8	2.556
6	3 46 39.55	2.6044	21 54 21.1	11.478	6	5 56 1.83	2.7281	27 34 45.1	2.353
7	3 49 15.98	2.6099	22 5 45.0	11.317	7	5 58 45.47	2.7265	27 37 0.2	2.151
8	3 51 52.74	2.6154	22 16 59.2	11.155	8	6 1 29.01	2.7248	27 39 3.2	1.948
9	3 54 29.83	2.6208	22 28 3.6	10.991	9	6 4 12.45	2.7229	27 40 54.0	1.746
10	3 57 7.24	2.6262	22 38 58.1	10.824	10	6 6 55.76	2.7208	27 42 32.7	1.544
11	3 59 44.97	2.6314	22 49 42.5	10.656	11	6 9 38.94	2.7184	27 43 59.3	1.342
12	4 2 23.01	2.6365	23 0 16.8	10.487	12	6 12 21.97	2.7158	27 45 13.8	1.142
13	4 5 1.35	2.6416	23 10 40.9	10.316	13	6 15 4.84	2.7131	27 46 16.3	0.942
14	4 7 40.00	2.6467	23 20 54.7	10.149	14	6 17 47.55	2.7103	27 47 6.8	0.742
15	4 10 18.95	2.6516	23 30 58.0	9.988	15	6 20 30.08	2.7073	27 47 45.4	0.543
16	4 12 58.19	2.6563	23 40 50.8	9.792	16	6 23 12.42	2.7040	27 48 12.0	0.345
17	4 15 37.71	2.6609	23 50 33.0	9.613	17	6 25 54.56	2.7007	27 48 26.8	+ 0.147
18	4 18 17.50	2.6654	24 0 4.4	9.433	18	6 28 36.50	2.6971	27 48 29.7	- 0.049
19	4 20 57.56	2.6699	24 9 25.0	9.253	19	6 31 18.21	2.6932	27 48 20.9	0.245
20	4 23 37.89	2.6742	24 18 34.8	9.073	20	6 33 59.69	2.6893	27 48 0.3	0.441
21	4 26 18.47	2.6783	24 27 33.6	8.888	21	6 36 40.93	2.6852	27 47 28.0	0.635
22	4 28 59.29	2.6824	24 36 21.4	8.703	22	6 39 21.92	2.6809	27 46 44.1	0.828
23	4 31 40.36	2.6864	N.24 44 58.0	8.517	23	6 42 2.64	2.6764	N.27 45 48.6	1.021
SUNDAY 6.					TUESDAY 8.				
0	4 34 21.66	2.6902	N.24 53 23.4	8.330	0	6 44 43.09	2.6718	N.27 44 41.6	1.219
1	4 37 3.18	2.6938	25 1 37.6	8.142	1	6 47 23.26	2.6671	27 43 23.2	1.409
2	4 39 44.92	2.6973	25 9 40.4	7.951	2	6 50 3.14	2.6622	27 41 53.3	1.592
3	4 42 26.86	2.7007	25 17 31.7	7.759	3	6 52 42.73	2.6572	27 40 12.1	1.780
4	4 45 9.00	2.7039	25 25 11.5	7.567	4	6 55 22.01	2.6519	27 38 19.7	1.967
5	4 47 51.33	2.7071	25 32 39.8	7.375	5	6 58 0.96	2.6464	27 36 16.1	2.153
6	4 50 33.85	2.7100	25 39 56.5	7.181	6	7 0 39.58	2.6409	27 34 1.4	2.338
7	4 53 16.53	2.7127	25 47 1.5	6.986	7	7 3 17.87	2.6353	27 31 35.6	2.521
8	4 55 59.37	2.7153	25 53 54.8	6.790	8	7 5 55.82	2.6295	27 28 58.9	2.702
9	4 58 42.37	2.7178	26 0 36.3	6.593	9	7 8 33.41	2.6236	27 26 11.3	2.883
10	5 1 25.51	2.7201	26 7 5.9	6.395	10	7 11 10.65	2.6178	27 23 12.9	3.063
11	5 4 8.78	2.7222	26 13 23.7	6.197	11	7 13 47.52	2.6113	27 20 3.7	3.242
12	5 6 52.17	2.7241	26 19 29.6	5.998	12	7 16 24.01	2.6050	27 16 43.9	3.418
13	5 9 35.67	2.7259	26 25 23.5	5.798	13	7 19 0.12	2.5986	27 13 13.5	3.594
14	5 12 19.28	2.7276	26 31 5.4	5.598	14	7 21 35.84	2.5920	27 9 32.6	3.767
15	5 15 2.98	2.7290	26 36 35.3	5.397	15	7 24 11.16	2.5853	27 5 41.4	3.939
16	5 17 46.76	2.7302	26 41 53.1	5.196	16	7 26 46.08	2.5786	27 1 39.9	4.111
17	5 20 30.60	2.7312	26 46 58.8	4.994	17	7 29 20.59	2.5717	26 57 28.1	4.281
18	5 23 14.50	2.7321	26 51 52.4	4.792	18	7 31 54.68	2.5647	26 53 6.2	4.448
19	5 25 58.45	2.7328	26 56 33.8	4.589	19	7 34 28.35	2.5576	26 48 34.3	4.615
20	5 28 42.44	2.7333	27 1 3.1	4.386	20	7 37 1.59	2.5504	26 43 52.4	4.780
21	5 31 26.45	2.7336	27 5 20.2	4.183	21	7 39 34.40	2.5432	26 39 0.7	4.943
22	5 34 10.47	2.7337	27 9 25.1	3.980	22	7 42 6.77	2.5358	26 33 59.2	5.106
23	5 36 54.50	2.7337	27 13 17.8	3.778	23	7 44 38.69	2.5283	26 28 48.0	5.266
24	5 39 38.52	2.7335	N.27 16 58.4	3.575	24	7 47 10.16	2.5208	N.26 23 27.3	5.424

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 9.					FRIDAY 11.				
0	^h 7 ^m 47 ^s 10.16	2.5908	N. 26° 23' 27.3"	5.494	0	^h 9 ^m 38 ^s 51.28	2.1342	N. 19° 31' 49.4"	11.699
1	7 49 11.18	2.5139	26 17 57.1	5.589	1	9 40 59.11	2.1368	19 20 41.0	11.189
2	7 52 11.74	2.5055	26 12 17.5	5.737	2	9 43 6.50	2.1195	19 9 27.8	11.525
3	7 54 41.84	2.4977	26 6 28.7	5.890	3	9 45 13.45	2.1192	18 58 10.0	11.335
4	7 57 11.47	2.4899	26 0 30.7	6.042	4	9 47 19.96	2.1049	18 46 47.6	11.411
5	7 59 40.63	2.4821	25 54 23.6	6.193	5	9 49 26.04	2.0977	18 35 20.7	11.485
6	8 2 9.32	2.4742	25 48 7.5	6.342	6	9 51 31.69	2.0906	18 23 49.4	11.557
7	8 4 37.53	2.4662	25 41 42.5	6.489	7	9 53 36.91	2.0835	18 12 13.8	11.629
8	8 7 5.26	2.4582	25 35 8.8	6.634	8	9 55 41.71	2.0765	18 0 33.9	11.700
9	8 9 32.52	2.4502	25 28 26.4	6.778	9	9 57 46.09	2.0695	17 48 49.8	11.769
10	8 11 59.29	2.4421	25 21 35.4	6.921	10	9 59 50.05	2.0626	17 37 1.6	11.837
11	8 14 25.57	2.4339	25 14 35.9	7.062	11	10 1 53.60	2.0558	17 25 9.4	11.903
12	8 16 51.36	2.4258	25 7 28.0	7.200	12	10 3 56.75	2.0491	17 13 13.3	11.968
13	8 19 16.66	2.4176	25 0 11.9	7.337	13	10 5 59.50	2.0425	17 1 13.3	12.032
14	8 21 41.47	2.4093	24 52 47.6	7.472	14	10 8 1.85	2.0358	16 49 9.5	12.094
15	8 24 5.78	2.4010	24 45 15.2	7.606	15	10 10 3.80	2.0292	16 37 2.0	12.155
16	8 26 29.59	2.3927	24 37 34.9	7.737	16	10 12 5.36	2.0228	16 24 50.9	12.215
17	8 28 52.91	2.3845	24 29 46.7	7.868	17	10 14 6.54	2.0165	16 12 36.2	12.274
18	8 31 15.73	2.3762	24 21 50.7	7.997	18	10 16 7.34	2.0102	16 0 18.0	12.332
19	8 33 38.05	2.3679	24 13 47.1	8.123	19	10 18 7.77	2.0040	15 47 56.4	12.388
20	8 35 59.87	2.3596	24 5 35.9	8.249	20	10 20 7.82	1.9978	15 35 31.4	12.444
21	8 38 21.20	2.3513	23 57 17.2	8.373	21	10 22 7.50	1.9917	15 23 3.1	12.498
22	8 40 42.03	2.3429	23 48 51.1	8.495	22	10 24 6.82	1.9856	15 10 31.6	12.551
23	8 43 2.35	2.3345	N. 23° 40' 17.8"	8.615	23	10 26 5.79	1.9795	N. 14° 57' 57.0"	12.602
THURSDAY 10.					SATURDAY 12.				
0	8 45 22.17	2.3262	N. 23° 31' 37.3"	8.733	0	10 28 4.41	1.9741	N. 14° 45' 19.3"	12.653
1	8 47 41.49	2.3179	23 22 49.8	8.850	1	10 30 2.68	1.9683	14 32 38.6	12.702
2	8 50 0.32	2.3097	23 13 55.3	8.966	2	10 32 0.60	1.9625	14 19 55.0	12.751
3	8 52 18.65	2.3013	23 4 53.9	9.079	3	10 33 58.18	1.9568	14 7 8.5	12.798
4	8 54 36.48	2.2930	22 55 45.8	9.191	4	10 35 55.42	1.9513	13 54 19.2	12.845
5	8 56 53.81	2.2848	22 46 31.0	9.302	5	10 37 52.34	1.9459	13 41 27.1	12.890
6	8 59 10.65	2.2766	22 37 9.6	9.411	6	10 39 48.93	1.9405	13 28 32.4	12.934
7	9 1 27.00	2.2683	22 27 41.7	9.518	7	10 41 45.20	1.9352	13 15 35.1	12.977
8	9 3 42.85	2.2601	22 18 7.5	9.623	8	10 43 41.16	1.9300	13 2 35.2	13.019
9	9 5 58.21	2.2520	22 8 27.0	9.727	9	10 45 36.80	1.9248	12 49 32.8	13.060
10	9 8 13.09	2.2439	21 58 40.3	9.829	10	10 47 32.14	1.9196	12 36 28.0	13.100
11	9 10 27.48	2.2358	21 48 47.5	9.929	11	10 49 27.18	1.9144	12 23 20.8	13.138
12	9 12 41.38	2.2277	21 38 48.8	10.028	12	10 51 21.92	1.9092	12 10 11.4	13.176
13	9 14 54.80	2.2197	21 28 44.2	10.126	13	10 53 16.37	1.9051	11 56 59.7	13.213
14	9 17 7.74	2.2117	21 18 33.7	10.222	14	10 55 10.54	1.9004	11 43 45.8	13.250
15	9 19 20.20	2.2037	21 8 17.5	10.317	15	10 57 4.42	1.8957	11 30 29.7	13.285
16	9 21 32.19	2.1958	20 57 55.7	10.410	16	10 58 58.02	1.8911	11 17 11.6	13.318
17	9 23 43.70	2.1879	20 47 28.3	10.502	17	11 0 51.35	1.8866	11 3 51.5	13.351
18	9 25 54.74	2.1801	20 36 55.5	10.592	18	11 2 44.42	1.8822	10 50 29.5	13.383
19	9 28 5.31	2.1723	20 26 17.3	10.680	19	11 4 37.22	1.8779	10 37 5.6	13.414
20	9 30 15.42	2.1646	20 15 33.9	10.767	20	11 6 29.77	1.8736	10 23 39.8	13.445
21	9 32 25.07	2.1570	20 4 45.3	10.853	21	11 8 22.06	1.8694	10 10 12.2	13.474
22	9 34 34.26	2.1494	19 53 51.6	10.937	22	11 10 14.10	1.8653	9 56 42.9	13.502
23	9 36 43.00	2.1418	19 42 52.9	11.018	23	11 12 5.90	1.8614	9 43 11.9	13.530
24	9 38 51.28	2.1342	N. 19° 31' 49.4"	11.099	24	11 13 57.47	1.8575	N. 9° 29' 39.3"	13.556

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 13.					TUESDAY 15.				
0	11 13 57.47	1.8575	N. 9° 29' 39.3"	13.556	0	12 40 5.08	1.7606	S. 1° 36' 11.2"	13.891
1	11 15 48.80	1.8536	9 16 5.2	13.589	1	12 41 50.71	1.7605	1 50 4.5	13.883
2	11 17 39.90	1.8498	9 2 29.5	13.607	2	12 43 36.34	1.7604	2 3 57.1	13.872
3	11 19 30.78	1.8462	8 48 52.3	13.632	3	12 45 21.96	1.7603	2 17 49.1	13.860
4	11 21 21.44	1.8425	8 35 13.7	13.655	4	12 47 7.58	1.7604	2 31 40.3	13.847
5	11 23 11.88	1.8389	8 21 33.7	13.676	5	12 48 53.21	1.7605	2 45 30.7	13.833
6	11 25 2.11	1.8355	8 7 52.5	13.697	6	12 50 38.84	1.7606	2 59 20.2	13.818
7	11 26 52.14	1.8322	7 54 10.0	13.718	7	12 52 24.48	1.7608	3 13 8.9	13.803
8	11 28 41.97	1.8289	7 40 26.3	13.738	8	12 54 10.14	1.7619	3 26 56.6	13.787
9	11 30 31.60	1.8256	7 26 41.4	13.757	9	12 55 55.83	1.7617	3 40 43.3	13.770
10	11 32 21.04	1.8225	7 12 55.4	13.775	10	12 57 41.54	1.7621	3 54 29.0	13.752
11	11 34 10.30	1.8194	6 59 8.4	13.792	11	12 59 27.28	1.7625	4 8 13.6	13.735
12	11 35 59.37	1.8164	6 45 20.4	13.808	12	13 1 13.04	1.7630	4 21 57.2	13.717
13	11 37 48.27	1.8136	6 31 31.4	13.824	13	13 2 58.84	1.7637	4 35 39.6	13.697
14	11 39 37.00	1.8108	6 17 41.5	13.839	14	13 4 44.69	1.7645	4 49 20.8	13.677
15	11 41 25.56	1.8080	6 3 50.7	13.853	15	13 6 30.58	1.7653	5 3 0.8	13.656
16	11 43 13.96	1.8054	5 49 59.1	13.866	16	13 8 16.52	1.7662	5 16 39.5	13.634
17	11 45 2.21	1.8028	5 36 6.8	13.878	17	13 10 2.52	1.7671	5 30 16.9	13.611
18	11 46 50.30	1.8003	5 22 13.7	13.891	18	13 11 48.57	1.7680	5 43 52.9	13.588
19	11 48 38.24	1.7978	5 8 19.9	13.902	19	13 13 34.68	1.7691	5 57 27.5	13.565
20	11 50 26.04	1.7956	4 54 25.5	13.911	20	13 15 20.86	1.7702	6 11 0.7	13.541
21	11 52 13.71	1.7933	4 40 30.6	13.920	21	13 17 7.11	1.7714	6 24 32.4	13.515
22	11 54 1.24	1.7911	4 26 35.1	13.929	22	13 18 53.43	1.7727	6 38 2.5	13.489
23	11 55 48.64	1.7890	N. 4 12 39.1	13.937	23	13 20 39.83	1.7740	S. 6 51 31.0	13.463
MONDAY 14.					WEDNESDAY 16.				
0	11 57 35.92	1.7870	N. 3 58 42.6	13.945	0	13 22 26.31	1.7753	S. 7 4 58.0	13.436
1	11 59 23.08	1.7850	3 44 45.7	13.951	1	13 24 12.87	1.7767	7 18 23.3	13.408
2	12 1 10.12	1.7831	3 30 48.5	13.956	2	13 25 59.52	1.7783	7 31 46.9	13.378
3	12 2 57.05	1.7813	3 16 51.0	13.961	3	13 27 46.27	1.7800	7 45 8.7	13.348
4	12 4 43.87	1.7796	3 2 53.2	13.965	4	13 29 33.12	1.7816	7 58 28.7	13.318
5	12 6 30.60	1.7780	2 48 55.2	13.968	5	13 31 20.06	1.7832	8 11 46.9	13.287
6	12 8 17.23	1.7764	2 34 57.0	13.971	6	13 33 7.10	1.7849	8 25 3.2	13.256
7	12 10 3.77	1.7749	2 20 58.7	13.973	7	13 34 54.25	1.7868	8 38 17.6	13.223
8	12 11 50.22	1.7734	2 7 0.3	13.974	8	13 36 41.52	1.7887	8 51 30.0	13.189
9	12 13 36.58	1.7721	1 53 1.8	13.975	9	13 38 28.90	1.7907	9 4 40.3	13.155
10	12 15 22.87	1.7708	1 39 3.3	13.974	10	13 40 16.40	1.7927	9 17 48.6	13.121
11	12 17 9.08	1.7696	1 25 4.9	13.973	11	13 42 4.02	1.7947	9 30 54.8	13.085
12	12 18 55.22	1.7684	1 11 6.6	13.971	12	13 43 51.76	1.7968	9 43 58.8	13.048
13	12 20 41.29	1.7674	0 57 8.4	13.969	13	13 45 39.63	1.7990	9 57 0.6	13.012
14	12 22 27.31	1.7665	0 43 10.4	13.966	14	13 47 27.64	1.8013	10 10 0.2	12.974
15	12 24 13.27	1.7656	0 29 12.5	13.962	15	13 49 15.79	1.8037	10 22 57.5	12.936
16	12 25 59.18	1.7647	0 15 14.9	13.957	16	13 51 4.08	1.8060	10 35 52.5	12.897
17	12 27 45.04	1.7639	N. 0 1 17.7	13.951	17	13 52 52.51	1.8083	10 48 45.1	12.856
18	12 29 30.85	1.7632	S. 0 12 39.2	13.945	18	13 54 41.08	1.8107	11 1 35.2	12.815
19	12 31 16.62	1.7626	0 26 35.7	13.939	19	13 56 29.80	1.8133	11 14 22.9	12.773
20	12 33 2.36	1.7621	0 40 31.8	13.932	20	13 58 18.68	1.8160	11 27 8.0	12.731
21	12 34 48.08	1.7617	0 54 27.5	13.924	21	14 0 7.72	1.8187	11 39 50.6	12.688
22	12 36 33.77	1.7613	1 8 22.7	13.915	22	14 1 56.92	1.8213	11 52 30.6	12.644
23	12 38 19.44	1.7609	1 22 17.3	13.904	23	14 3 46.28	1.8240	12 5 7.9	12.598
24	12 40 5.08	1.7606	S. 1 36 11.2	13.893	24	14 5 35.80	1.8268	S. 12 17 42.4	12.559

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 17.					SATURDAY 19.				
0	^h 14 ^m 5 ^s 35.80	1.8968	S. 12° 17' 42.4"	12.552	0	^h 15 ^m 37 ^s 25.49	2.0136	S. 21° 11' 44.1"	9.361
1	14 7 25.50	1.8997	12 30 14.2	12.506	1	15 39 26.45	2.0182	21 21 3.1	9.272
2	14 9 15.37	1.8927	12 42 43.2	12.459	2	15 41 27.68	2.0228	21 30 16.8	9.183
3	14 11 5.42	1.8957	12 55 9.3	12.411	3	15 43 29.19	2.0275	21 39 25.1	9.093
4	14 12 55.65	1.8987	13 7 32.5	12.362	4	15 45 30.98	2.0321	21 48 27.9	9.002
5	14 14 46.06	1.8418	13 19 52.8	12.313	5	15 47 33.04	2.0368	21 57 25.3	8.910
6	14 16 36.66	1.8449	13 32 10.1	12.263	6	15 49 35.39	2.0415	22 6 17.1	8.817
7	14 18 27.45	1.8481	13 44 24.4	12.211	7	15 51 38.02	2.0461	22 15 3.3	8.723
8	14 20 18.43	1.8513	13 56 35.5	12.158	8	15 53 40.92	2.0507	22 23 43.8	8.628
9	14 22 9.61	1.8546	14 8 43.4	12.105	9	15 55 44.10	2.0553	22 32 18.6	8.532
10	14 24 0.99	1.8580	14 20 48.1	12.052	10	15 57 47.56	2.0600	22 40 47.6	8.435
11	14 25 52.57	1.8613	14 32 49.6	11.997	11	15 59 51.30	2.0647	22 49 10.8	8.337
12	14 27 44.35	1.8647	14 44 47.8	11.942	12	16 1 55.33	2.0694	22 57 28.1	8.239
13	14 29 36.34	1.8682	14 56 42.6	11.886	13	16 3 59.63	2.0740	23 5 39.5	8.140
14	14 31 28.54	1.8718	15 8 34.1	11.829	14	16 6 4.21	2.0787	23 13 44.9	8.039
15	14 33 20.96	1.8754	15 20 22.1	11.771	15	16 8 9.07	2.0833	23 21 44.2	7.937
16	14 35 13.59	1.8790	15 32 6.6	11.712	16	16 10 14.21	2.0880	23 29 37.4	7.835
17	14 37 6.44	1.8826	15 43 47.5	11.652	17	16 12 19.63	2.0926	23 37 24.4	7.732
18	14 38 59.50	1.8863	15 55 24.8	11.591	18	16 14 25.32	2.0972	23 45 5.2	7.628
19	14 40 52.79	1.8901	16 6 58.4	11.530	19	16 16 31.29	2.1017	23 52 39.8	7.523
20	14 42 46.31	1.8939	16 18 28.4	11.468	20	16 18 37.53	2.1063	24 0 8.0	7.417
21	14 44 40.06	1.8977	16 29 54.6	11.405	21	16 20 44.05	2.1109	24 7 29.8	7.310
22	14 46 34.04	1.9016	16 41 17.0	11.341	22	16 22 50.84	2.1154	24 14 45.2	7.203
23	14 48 28.25	1.9055	S. 16° 52' 35.5"	11.275	23	16 24 57.90	2.1200	S. 24° 21' 54.2"	7.095
FRIDAY 18.					SUNDAY 20.				
0	14 50 22.70	1.9095	S. 17° 3' 50.0"	11.209	0	16 27 5.24	2.1245	S. 24° 28' 56.6"	6.985
1	14 52 17.39	1.9135	17 15 0.6	11.142	1	16 29 12.84	2.1289	24 35 52.4	6.875
2	14 54 12.32	1.9175	17 26 7.1	11.075	2	16 31 20.71	2.1334	24 42 41.6	6.764
3	14 56 7.49	1.9216	17 37 9.6	11.007	3	16 33 28.85	2.1378	24 49 24.1	6.652
4	14 58 2.91	1.9257	17 48 8.0	10.938	4	16 35 37.25	2.1423	24 55 59.8	6.539
5	14 59 58.57	1.9298	17 59 2.2	10.867	5	16 37 45.92	2.1467	25 2 28.8	6.426
6	15 1 54.48	1.9339	18 9 52.1	10.796	6	16 39 54.85	2.1510	25 8 51.0	6.312
7	15 3 50.64	1.9382	18 20 37.7	10.724	7	16 42 4.04	2.1559	25 15 6.3	6.197
8	15 5 47.06	1.9424	18 31 19.0	10.652	8	16 44 13.48	2.1595	25 21 14.6	6.080
9	15 7 43.73	1.9467	18 41 55.9	10.578	9	16 46 23.18	2.1637	25 27 15.9	5.963
10	15 9 40.66	1.9510	18 52 28.3	10.503	10	16 48 33.13	2.1680	25 33 10.1	5.845
11	15 11 37.85	1.9553	19 2 56.3	10.428	11	16 50 43.34	2.1722	25 38 57.3	5.727
12	15 13 35.29	1.9596	19 13 19.7	10.351	12	16 52 53.80	2.1763	25 44 37.4	5.608
13	15 15 33.00	1.9640	19 23 38.4	10.273	13	16 55 4.50	2.1803	25 50 10.3	5.488
14	15 17 30.97	1.9684	19 33 52.5	10.196	14	16 57 15.44	2.1843	25 55 35.9	5.367
15	15 19 29.21	1.9729	19 44 1.9	10.117	15	16 59 26.62	2.1883	26 0 54.3	5.246
16	15 21 27.72	1.9773	19 54 6.5	10.036	16	17 1 38.04	2.1923	26 6 5.4	5.123
17	15 23 26.49	1.9817	20 4 6.2	9.954	17	17 3 49.70	2.1962	26 11 9.1	4.999
18	15 25 25.53	1.9862	20 14 1.0	9.872	18	17 6 1.59	2.2001	26 16 5.3	4.875
19	15 27 24.84	1.9907	20 23 50.9	9.790	19	17 8 13.71	2.2038	26 20 54.1	4.751
20	15 29 24.42	1.9953	20 33 35.8	9.706	20	17 10 26.05	2.2075	26 25 35.4	4.626
21	15 31 24.28	1.9999	20 43 15.6	9.621	21	17 12 38.61	2.2112	26 30 9.2	4.500
22	15 33 24.41	2.0044	20 52 50.3	9.535	22	17 14 51.39	2.2148	26 34 35.4	4.373
23	15 35 24.81	2.0090	21 2 19.8	9.448	23	17 17 4.39	2.2184	26 38 53.9	4.245
24	15 37 25.49	2.0136	S. 21° 11' 44.1"	9.361	24	17 19 17.60	2.2219	S. 26° 43' 4.8"	4.117

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 21.					WEDNESDAY 23.				
0	17 19 17.60	2.9219	S. 26° 43' 4.8"	4.117	0	19 8 35.12	2.3003	S. 27° 23' 32.7"	2.550
1	17 21 31.02	2.9253	26 47 8.0	3.988	1	19 10 53.13	2.9999	27 20 55.4	2.693
2	17 23 44.64	2.9287	26 51 3.4	3.859	2	19 13 11.11	2.9993	27 18 9.5	2.836
3	17 25 58.46	2.9320	26 54 51.1	3.729	3	19 15 29.05	2.9987	27 15 15.0	2.979
4	17 28 12.48	2.9352	26 58 30.9	3.598	4	19 17 46.95	2.9980	27 12 12.0	3.122
5	17 30 26.69	2.9385	27 2 2.8	3.467	5	19 20 4.81	2.9973	27 9 0.4	3.265
6	17 32 41.10	2.9417	27 5 26.9	3.336	6	19 22 22.63	2.9966	27 5 40.2	3.407
7	17 31 55.69	2.9447	27 8 43.1	3.203	7	19 24 40.40	2.9957	27 2 11.5	3.549
8	17 37 10.46	2.9476	27 11 51.2	3.069	8	19 26 58.11	2.9946	26 58 34.3	3.691
9	17 39 25.40	2.9505	27 14 51.3	2.935	9	19 29 15.75	2.9935	26 54 48.6	3.833
10	17 41 40.52	2.9534	27 17 43.4	2.801	10	19 31 33.33	2.9924	26 50 54.4	3.974
11	17 43 55.81	2.9562	27 20 27.4	2.667	11	19 33 50.84	2.9912	26 46 51.7	4.115
12	17 46 11.26	2.9588	27 23 3.4	2.532	12	19 36 8.27	2.9898	26 42 40.6	4.256
13	17 48 26.87	2.9614	27 25 31.2	2.396	13	19 38 25.62	2.9885	26 38 21.0	4.397
14	17 50 42.63	2.9640	27 27 50.8	2.259	14	19 40 42.89	2.9872	26 33 53.0	4.538
15	17 52 58.55	2.9665	27 30 2.3	2.123	15	19 43 0.08	2.9857	26 29 16.5	4.678
16	17 55 14.61	2.9688	27 32 5.6	1.986	16	19 45 17.18	2.9842	26 24 31.6	4.817
17	17 57 30.81	2.9711	27 34 0.6	1.848	17	19 47 34.18	2.9825	26 19 38.4	4.956
18	17 59 47.14	2.9733	27 35 47.3	1.709	18	19 49 51.08	2.9808	26 14 36.9	5.095
19	18 2 3.60	2.9754	27 37 25.7	1.571	19	19 52 7.88	2.9791	26 9 27.0	5.234
20	18 4 20.19	2.9776	27 38 55.8	1.432	20	19 54 24.57	2.9773	26 4 8.8	5.373
21	18 6 36.91	2.9796	27 40 17.6	1.293	21	19 56 41.16	2.9755	25 58 42.4	5.509
22	18 8 53.74	2.9814	27 41 31.0	1.153	22	19 58 57.63	2.9735	25 53 7.7	5.647
23	18 11 10.68	2.9839	S. 27° 42' 36.0"	1.013	23	20 1 13.98	2.9715	S. 25° 47' 24.7"	5.785
TUESDAY 22.					THURSDAY 24.				
0	18 13 27.73	2.9854	S. 27° 43' 32.6"	0.873	0	20 3 30.21	2.9695	S. 25° 41' 33.5"	5.922
1	18 15 44.88	2.9866	27 44 20.8	0.733	1	20 5 46.32	2.9674	25 35 34.1	6.057
2	18 18 2.12	2.9881	27 45 0.5	0.592	2	20 8 2.30	2.9653	25 29 26.6	6.199
3	18 20 19.45	2.9896	27 45 31.8	0.451	3	20 10 18.15	2.9631	25 23 11.0	6.327
4	18 22 36.87	2.9910	27 45 54.6	0.309	4	20 12 33.87	2.9608	25 16 47.3	6.462
5	18 24 54.37	2.9922	27 46 8.9	0.166	5	20 14 49.45	2.9586	25 10 15.6	6.596
6	18 27 11.94	2.9934	27 46 14.6	- 0.024	6	20 17 4.90	2.9563	25 3 35.8	6.730
7	18 29 29.58	2.9946	27 46 11.8	+ 0.117	7	20 19 20.21	2.9539	24 56 48.0	6.863
8	18 31 47.29	2.9957	27 46 0.5	0.259	8	20 21 35.37	2.9515	24 49 52.3	6.995
9	18 34 5.06	2.9966	27 45 40.7	0.402	9	20 23 50.39	2.9491	24 42 48.6	7.127
10	18 36 22.88	2.9974	27 45 12.3	0.545	10	20 26 5.26	2.9466	24 35 37.0	7.258
11	18 38 40.75	2.9983	27 44 35.3	0.688	11	20 28 19.98	2.9440	24 28 17.6	7.389
12	18 40 58.66	2.9988	27 43 49.8	0.831	12	20 30 34.54	2.9414	24 20 50.3	7.520
13	18 43 16.61	2.9995	27 42 55.6	0.974	13	20 32 48.95	2.9388	24 13 15.2	7.649
14	18 45 34.60	2.3000	27 41 52.9	1.117	14	20 35 3.20	2.9363	24 5 32.4	7.778
15	18 47 52.61	2.3004	27 40 41.6	1.260	15	20 37 17.30	2.9337	23 57 41.9	7.906
16	18 50 10.64	2.3007	27 39 21.7	1.403	16	20 39 31.24	2.9310	23 49 43.7	8.034
17	18 52 28.69	2.3010	27 37 53.2	1.547	17	20 41 45.02	2.9282	23 41 37.8	8.162
18	18 54 46.76	2.3012	27 36 16.1	1.690	18	20 43 58.63	2.9255	23 33 24.3	8.288
19	18 57 4.83	2.3012	27 34 30.4	1.833	19	20 46 12.08	2.9227	23 25 3.3	8.413
20	18 59 22.91	2.3012	27 32 36.1	1.977	20	20 48 25.36	2.9200	23 16 34.8	8.538
21	19 1 40.98	2.3011	27 30 33.1	2.121	21	20 50 38.48	2.9172	23 7 58.7	8.663
22	19 3 59.04	2.3009	27 28 21.5	2.264	22	20 52 51.43	2.9144	22 59 15.2	8.787
23	19 6 17.09	2.3007	27 26 1.4	2.407	23	20 55 4.21	2.9116	22 50 24.3	8.909
24	19 8 35.12	2.3003	S. 27° 23' 32.7"	2.550	24	20 57 16.82	2.9087	S. 22° 41' 26.1"	9.031

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 25.					SUNDAY 27.				
0	^h 20 ^m 57 ^s 16.82	2.9087	S. 22° 41' 26.1"	9.031	0	^h 22 ^m 40 ^s 11.89	2.0899	S. 13° 21' 57.2"	13.951
1	20 59 29.26	2.9059	22 32 20.6	9.153	1	22 42 17.24	2.0885	13 7 57.7	14.031
2	21 1 41.53	2.9031	22 23 7.8	9.274	2	22 44 22.51	2.0871	12 53 53.5	14.109
3	21 3 53.63	2.9002	22 13 47.7	9.395	3	22 46 27.69	2.0857	12 39 44.6	14.187
4	21 6 5.56	2.1973	22 4 20.4	9.514	4	22 48 32.79	2.0843	12 25 31.0	14.265
5	21 8 17.31	2.1944	21 54 46.0	9.633	5	22 50 37.81	2.0831	12 11 12.8	14.342
6	21 10 28.89	2.1916	21 45 4.5	9.751	6	22 52 42.76	2.0819	11 56 50.0	14.417
7	21 12 40.30	2.1887	21 35 15.9	9.868	7	22 54 47.64	2.0807	11 42 22.7	14.492
8	21 14 51.53	2.1859	21 25 20.3	9.984	8	22 56 52.45	2.0796	11 27 51.0	14.565
9	21 17 2.60	2.1831	21 15 17.8	10.100	9	22 58 57.19	2.0785	11 13 14.9	14.637
10	21 19 13.50	2.1802	21 5 8.3	10.215	10	23 1 1.87	2.0776	10 58 34.5	14.709
11	21 21 24.22	2.1773	20 54 52.0	10.329	11	23 3 6.50	2.0767	10 43 49.9	14.778
12	21 23 34.77	2.1744	20 44 28.9	10.442	12	23 5 11.08	2.0759	10 29 1.1	14.847
13	21 25 45.15	2.1716	20 33 59.0	10.555	13	23 7 15.61	2.0752	10 14 8.2	14.916
14	21 27 55.36	2.1687	20 23 22.3	10.667	14	23 9 20.10	2.0746	9 59 11.2	14.983
15	21 30 5.40	2.1659	20 12 39.0	10.777	15	23 11 24.56	2.0740	9 44 10.2	15.049
16	21 32 15.27	2.1632	20 1 49.1	10.887	16	23 13 28.98	2.0734	9 29 5.3	15.114
17	21 34 24.98	2.1604	19 50 52.6	10.997	17	23 15 33.37	2.0730	9 13 56.5	15.177
18	21 36 34.52	2.1576	19 39 49.5	11.106	18	23 17 37.74	2.0727	8 58 44.0	15.239
19	21 38 43.89	2.1548	19 28 30.9	11.213	19	23 19 42.09	2.0724	8 43 27.8	15.301
20	21 40 53.10	2.1521	19 17 23.9	11.319	20	23 21 46.42	2.0721	8 28 7.9	15.362
21	21 43 2.15	2.1494	19 6 1.6	11.425	21	23 23 50.74	2.0719	8 12 44.3	15.422
22	21 45 11.03	2.1467	18 54 32.9	11.531	22	23 25 55.05	2.0718	7 57 17.2	15.480
23	21 47 19.75	2.1441	S. 18 42 57.9	11.635	23	23 27 59.36	2.0718	S. 7 41 46.7	15.537
SATURDAY 26.					MONDAY 28.				
0	21 49 28.32	2.1415	S. 18 31 16.7	11.738	0	23 30 3.67	2.0719	S. 7 26 12.8	15.593
1	21 51 36.73	2.1388	18 19 20.3	11.841	1	23 32 7.99	2.0721	7 10 35.6	15.646
2	21 53 44.98	2.1369	18 7 35.8	11.942	2	23 34 12.32	2.0723	6 54 55.1	15.702
3	21 55 53.08	2.1337	17 55 36.2	12.043	3	23 36 16.67	2.0727	6 39 11.4	15.754
4	21 58 1.03	2.1312	17 43 30.6	12.143	4	23 38 21.04	2.0731	6 23 24.6	15.805
5	22 0 8.83	2.1287	17 31 19.0	12.243	5	23 40 25.44	2.0736	6 7 34.8	15.854
6	22 2 16.48	2.1263	17 19 1.5	12.342	6	23 42 29.87	2.0741	5 51 42.1	15.903
7	22 4 23.99	2.1239	17 6 38.1	12.438	7	23 44 34.33	2.0747	5 35 46.5	15.951
8	22 6 31.35	2.1215	16 54 8.9	12.534	8	23 46 38.81	2.0755	5 19 48.0	15.998
9	22 8 38.57	2.1192	16 41 34.0	12.629	9	23 48 43.39	2.0763	5 3 46.7	16.043
10	22 10 45.66	2.1170	16 28 53.4	12.724	10	23 50 47.99	2.0772	4 47 42.8	16.087
11	22 12 52.61	2.1148	16 16 7.1	12.817	11	23 52 52.65	2.0782	4 31 36.3	16.130
12	22 14 59.43	2.1126	16 3 15.3	12.910	12	23 54 57.38	2.0793	4 15 27.2	16.172
13	22 17 6.12	2.1104	15 50 17.9	13.002	13	23 57 2.17	2.0804	3 59 15.7	16.212
14	22 19 12.68	2.1083	15 37 15.0	13.093	14	23 59 7.03	2.0817	3 43 1.8	16.251
15	22 21 19.12	2.1062	15 24 6.7	13.183	15	0 1 11.97	2.0830	3 26 45.6	16.288
16	22 23 25.43	2.1042	15 10 53.0	13.272	16	0 3 16.99	2.0844	3 10 27.2	16.324
17	22 25 31.62	2.1022	14 57 34.0	13.360	17	0 5 22.10	2.0859	2 54 6.7	16.359
18	22 27 37.70	2.1003	14 44 9.8	13.447	18	0 7 27.30	2.0875	2 37 44.1	16.393
19	22 29 43.66	2.0984	14 30 40.4	13.533	19	0 9 32.60	2.0892	2 21 19.5	16.426
20	22 31 49.51	2.0967	14 17 5.8	13.619	20	0 11 38.01	2.0910	2 4 53.0	16.457
21	22 33 55.26	2.0950	14 3 26.1	13.703	21	0 13 43.52	2.0928	1 48 24.7	16.486
22	22 36 0.91	2.0932	13 49 41.4	13.786	22	0 15 49.15	2.0948	1 31 54.7	16.514
23	22 38 6.45	2.0915	13 35 51.8	13.869	23	0 17 54.90	2.0968	1 15 23.0	16.542
24	22 40 11.89	2.0899	S. 13 21 57.2	13.951	24	0 20 0.77	2.0989	S. 0 58 49.7	16.567

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 29.					THURSDAY, DECEMBER 1.				
0	^h 0 ^m 20 ^s 0.77	2.0989	S. 0° 58' 49.7	16.567	0	^h 2 ^m 4 ^s 57.14	2.3075	N. 12° 15' 28.3	15.846
1	0 22 6.77	2.1012	0 42 15.0	16.590					
2	0 24 12.91	2.1035	0 25 38.9	16.613					
3	0 26 19.19	2.1059	S. 0 9 1.4	16.635					
4	0 28 25.62	2.1084	N. 0 7 37.3	16.654					
5	0 30 32.20	2.1110	0 24 17.1	16.679					
6	0 32 38.94	2.1137	0 40 58.0	16.699					
7	0 34 45.84	2.1164	0 57 39.8	16.704					
8	0 36 52.91	2.1193	1 14 22.5	16.718					
9	0 39 0.16	2.1223	1 31 6.0	16.731					
10	0 41 7.59	2.1253	1 47 50.2	16.741					
11	0 43 15.20	2.1284	2 4 34.9	16.749					
12	0 45 23.00	2.1317	2 21 20.1	16.757					
13	0 47 31.00	2.1350	2 38 5.8	16.764					
14	0 49 39.20	2.1384	2 54 51.8	16.767					
15	0 51 47.61	2.1419	3 11 37.9	16.769					
16	0 53 56.23	2.1455	3 28 24.1	16.771					
17	0 56 5.07	2.1493	3 45 10.4	16.771					
18	0 58 14.14	2.1531	4 1 56.6	16.768					
19	1 0 23.44	2.1569	4 18 42.6	16.764					
20	1 2 32.97	2.1608	4 35 28.3	16.758					
21	1 4 42.74	2.1649	4 52 13.6	16.751					
22	1 6 52.76	2.1691	5 8 58.4	16.742					
23	1 9 3.03	2.1733	N. 5 25 42.6	16.731					
WEDNESDAY 30.					PHASES OF THE MOON.				
0	1 11 13.56	2.1777	N. 5 42 26.1	16.718	○ Full Moon . . . Nov.	d 4 h 3 m	49.3		
1	1 13 24.36	2.1821	5 59 8.8	16.704	☾ Last Quarter	10 22	1.9		
2	1 15 35.42	2.1866	6 15 50.6	16.687	● New Moon	19 1	18.9		
3	1 17 46.75	2.1912	6 32 31.3	16.669	☾ First Quarter	26 22	27.8		
4	1 19 58.26	2.1959	6 49 10.9	16.650					
5	1 22 10.26	2.2007	7 5 49.3	16.628					
6	1 24 22.44	2.2055	7 22 26.3	16.604					
7	1 26 34.92	2.2105	7 39 1.8	16.579					
8	1 28 47.70	2.2156	7 55 35.8	16.552	☾ Perigee Nov.	d 4 h	3.9		
9	1 31 0.79	2.2207	8 12 8.1	16.522	☾ Apogee	17 17.1			
10	1 33 14.19	2.2259	8 28 38.5	16.491					
11	1 35 27.90	2.2312	8 45 7.0	16.458					
12	1 37 41.93	2.2366	9 1 33.5	16.423					
13	1 39 56.29	2.2421	9 17 57.8	16.386					
14	1 42 10.98	2.2477	9 34 19.8	16.348					
15	1 44 26.01	2.2533	9 50 39.5	16.307					
16	1 46 41.38	2.2590	10 6 56.6	16.263					
17	1 48 57.09	2.2648	10 23 11.1	16.218					
18	1 51 13.15	2.2707	10 39 22.8	16.173					
19	1 53 29.57	2.2767	10 55 31.7	16.123					
20	1 55 46.35	2.2827	11 11 37.5	16.071					
21	1 58 3.49	2.2888	11 27 40.2	16.017					
22	2 0 21.00	2.2949	11 43 39.6	15.962					
23	2 2 38.88	2.3012	11 59 35.7	15.906					
24	2 4 57.14	2.3075	N. 12 15 28.3	15.846					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Aquilæ	W.	62° 9' 48"	3311	63° 33' 47"	3259	64° 58' 46"	3211	66° 24' 42"	3166
	MARS	W.	29 41 35	2360	31 26 7	2349	33 11 5	2335	34 56 28	2308
	α Arietis	E.	42 49 19	2333	41 4 8	2328	39 18 50	2326	37 33 20	2326
	Aldebaran	E.	72 39 57	2227	70 52 10	2212	69 4 1	2196	67 15 30	2184
2	α Aquilæ	W.	73 46 45	2285	75 17 16	2258	76 48 22	2232	78 20 0	2209
	MARS	W.	43 49 22	2232	45 37 2	2218	47 25 2	2206	49 13 21	2194
	Fomalhaut	W.	41 10 23	2481	42 52 3	2441	44 34 40	2403	46 18 10	2370
	Aldebaran	E.	58 7 59	2124	56 17 37	2115	54 27 0	2106	52 36 10	2089
	Pollux	E.	101 51 46	2064	99 59 51	2052	98 7 37	2039	96 15 4	2029
3	MARS	W.	58 18 55	2147	60 8 42	2140	61 58 40	2134	63 48 47	2128
	Fomalhaut	W.	55 6 15	2246	56 53 34	2229	58 41 19	2212	60 29 28	2196
	α Pegasi	W.	38 27 17	3049	39 56 29	2959	41 27 33	2888	43 0 15	2813
	Aldebaran	E.	43 19 46	2080	41 28 16	2081	39 36 48	2064	37 45 24	2068
	Pollux	E.	86 48 27	1984	84 54 28	1977	83 0 18	1972	81 5 59	1966
4	MARS	W.	73 1 1	2114	74 51 39	2115	76 42 16	2115	78 32 52	2116
	Fomalhaut	W.	69 34 42	2153	71 24 21	2147	73 14 9	2144	75 4 1	2142
	α Pegasi	W.	51 2 56	2576	52 42 24	2545	54 22 35	2518	56 3 23	2494
	JUPITER	W.	23 20 12	1921	25 15 52	1921	27 11 32	1921	29 7 11	1923
	Pollux	E.	71 32 46	1953	69 37 57	1953	67 43 8	1953	65 48 20	1955
5	MARS	W.	87 44 51	2137	89 34 53	2143	91 24 46	2151	93 14 27	2159
	Fomalhaut	W.	84 13 28	2151	86 3 9	2157	87 52 42	2163	89 42 5	2170
	α Pegasi	W.	64 34 13	2422	66 17 16	2415	68 0 29	2410	69 43 49	2406
	JUPITER	W.	38 44 26	1942	40 39 32	1948	42 34 28	1955	44 29 13	1963
	Pollux	E.	56 15 20	1974	54 21 5	1981	52 27 0	1988	50 33 7	1996
	Regulus	E.	92 47 23	1986	90 53 26	1991	88 59 38	1996	87 6 1	2007
6	α Pegasi	W.	78 20 29	2422	80 3 32	2422	81 46 25	2438	83 29 5	2449
	JUPITER	W.	53 59 30	2012	55 52 45	2025	57 45 41	2037	59 38 18	2050
	α Arietis	W.	34 57 14	2246	36 44 33	2240	38 32 1	2238	40 19 32	2239
	Pollux	E.	41 7 9	2046	39 14 47	2059	37 22 44	2072	35 31 1	2085
	Regulus	E.	77 41 25	2057	75 49 19	2068	73 57 31	2081	72 6 3	2094
7	JUPITER	W.	68 56 2	2123	70 46 26	2139	72 36 26	2155	74 26 2	2172
	α Arietis	W.	49 15 56	2268	51 2 42	2279	52 49 13	2289	54 35 28	2302
	Regulus	E.	62 54 7	2170	61 4 54	2186	59 16 6	2203	57 27 43	2221
	VENUS	E.	99 18 44	2518	97 37 56	2535	95 57 32	2553	94 17 32	2572
8	JUPITER	W.	83 27 33	2280	85 14 32	2277	87 1 5	2296	88 47 10	2314
	α Arietis	W.	63 21 52	2373	65 6 6	2389	66 49 57	2405	68 33 24	2422
	Aldebaran	W.	33 10 6	2433	34 52 54	2438	36 35 34	2446	38 18 3	2456
	Regulus	E.	48 32 32	2314	46 46 53	2333	45 1 42	2353	43 17 0	2374
	VENUS	E.	86 3 58	2667	84 26 34	2687	82 49 36	2707	81 13 6	2727
	SATURN	E.	88 19 53	2292	86 34 26	2340	84 49 25	2359	83 4 51	2377
9	α Arietis	W.	77 4 41	2508	78 45 43	2526	80 26 20	2544	82 6 32	2562
	Aldebaran	W.	46 46 33	2519	48 27 20	2533	50 7 47	2548	51 47 53	2563
	Regulus	E.	34 41 0	2482	32 59 21	2504	31 18 13	2527	29 37 38	2551
	VENUS	E.	73 17 16	2629	71 43 26	2650	70 10 3	2670	68 37 6	2691

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XV ^h .	P. L. of Diff.	XVIII ^h .	P. L. of Diff.	XXI ^h .	P. L. of Diff.
1	α Aquilæ W.	67° 51' 32"	3184	69° 19' 12"	3085	70° 47' 40"	3049	72° 16' 52"	3016
	MARS W.	36 42 16	3291	38 28 28	3275	40 15 4	3260	42 2 2	3245
	α Arietis E.	35 48 8	3230	34 2 52	3237	32 17 46	3248	30 32 57	3266
	Aldebaran E.	65 26 38	3170	63 37 26	3158	61 47 55	3145	59 58 5	3135
2	α Aquilæ W.	79 52 8	2988	81 24 42	2989	82 57 40	2853	84 30 59	2840
	MARS W.	51 1 57	3183	52 50 50	3173	54 39 58	3164	56 29 20	3155
	Fomalhaut W.	48 2 28	3240	49 47 29	3213	51 33 10	3209	53 19 26	3206
	Aldebaran E.	50 45 9	3092	48 53 58	3087	47 2 39	3083	45 11 14	3081
	Pollux E.	94 22 15	3019	92 29 10	3009	90 35 49	3000	88 42 14	1992
3	MARS W.	65 39 3	3124	67 29 25	3120	69 19 53	3118	71 10 25	3115
	Fomalhaut W.	62 17 59	3186	64 6 48	3175	65 55 53	3166	67 45 12	3159
	α Pegasi W.	44 34 26	3253	46 9 56	3201	47 46 35	3254	49 24 17	3212
	Aldebaran E.	35 54 8	3096	34 3 3	3107	32 12 15	3181	30 21 48	3140
	Pollux E.	79 11 31	1982	77 16 57	1958	75 22 17	1956	73 27 33	1954
4	MARS W.	80 23 26	3119	82 13 56	3122	84 4 21	3126	85 54 40	3132
	Fomalhaut W.	76 53 56	3141	78 43 52	3141	80 33 48	3144	82 23 40	3147
	α Pegasi W.	57 44 45	3474	59 26 35	3457	61 8 49	3443	62 51 23	3431
	JUPITER W.	31 2 48	1925	32 58 21	1928	34 53 49	1922	36 49 11	1926
	Pollux E.	63 53 34	1957	61 58 52	1960	60 4 15	1964	58 9 44	1968
5	MARS W.	95 3 56	3169	96 53 11	3178	98 42 12	3188	100 30 57	3200
	Fomalhaut W.	91 31 17	3180	93 20 15	3189	95 8 59	3200	96 57 26	3212
	α Pegasi W.	71 27 12	3408	73 10 36	3408	74 53 59	3412	76 37 17	3416
	JUPITER W.	46 23 45	1972	48 18 4	1981	50 12 9	1991	52 5 58	2001
	Pollux E.	48 39 26	3085	46 45 59	3014	44 52 46	3034	42 59 49	3035
	Regulus E.	85 12 37	3015	83 19 26	3025	81 26 30	3034	79 33 49	3045
6	α Pegasi W.	85 11 30	3460	86 53 39	3473	88 35 30	3487	90 17 1	3502
	JUPITER W.	61 30 34	3064	63 22 29	3077	65 14 3	3092	67 5 14	3107
	α Arietis W.	42 7 2	3241	43 54 28	3246	45 41 47	3252	47 28 57	3260
	Pollux E.	33 39 38	3099	31 48 37	3114	29 57 59	3129	28 7 44	3145
	Regulus E.	70 14 55	3109	68 24 9	3123	66 33 45	3138	64 43 44	3154
7	JUPITER W.	76 15 12	3189	78 3 56	3206	79 52 15	3224	81 40 7	3241
	α Arietis W.	56 21 24	3215	58 7 1	3238	59 52 19	3243	61 37 16	3257
	Regulus E.	55 39 47	3239	53 52 17	3258	52 5 15	3276	50 18 40	3294
	VENUS E.	92 37 58	3250	90 58 49	3269	89 20 6	3292	87 41 49	3317
8	JUPITER W.	90 32 49	3233	92 18 0	3251	94 2 49	3270	95 47 3	3289
	α Arietis W.	70 16 28	3438	71 59 8	3456	73 41 23	3473	75 23 14	3490
	Aldebaran W.	40 0 18	3467	41 42 18	3479	43 24 1	3492	45 5 26	3504
	Regulus E.	41 32 48	3294	39 49 5	3416	38 5 53	3437	36 23 11	3459
	VENUS E.	79 37 2	3747	78 1 25	3768	76 26 15	3788	74 51 32	3809
	SATURN E.	81 20 43	3296	79 37 2	3415	77 53 48	3433	76 11 1	3452
9	α Arietis W.	83 46 19	3280	85 25 42	3298	87 4 40	3315	88 43 14	3334
	Aldebaran W.	53 27 39	3279	55 7 3	3294	56 46 6	3310	58 24 48	3326
	Regulus E.	27 57 36	3277	26 18 9	3293	24 39 18	3292	23 1 6	3283
	VENUS E.	67 4 35	3211	65 32 30	3231	64 0 50	3251	62 29 36	3270

GREENWICH MEAN TIME.									
LUNAR DISTANCES.									
Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
9	SATURN E.	74° 26' 40"	9471	72° 46' 46"	9489	71° 5' 18"	9500	69° 24' 17"	9547
	SUN E.	113 34 0	9788	111 58 50	9788	110 24 6	9808	108 49 49	9888
10	α Arietis W.	90 21 23	9853	91 59 8	9889	93 36 30	9887	95 13 28	9704
	Aldebaran W.	60 3 8	9841	61 41 7	9857	63 18 44	9873	64 56 0	9889
	VENUS E.	60 58 46	9890	59 28 21	9808	57 58 20	9898	56 28 42	9847
	SATURN E.	61 5 32	9818	59 27 1	9836	57 48 55	9853	56 11 12	9871
	Spica E.	75 8 49	9899	73 29 43	9810	71 51 2	9898	70 12 45	9845
	SUN E.	101 4 48	9996	99 33 2	9946	98 1 41	9984	96 30 43	9983
11	Aldebaran W.	72 57 9	9786	74 32 22	9780	76 7 16	9795	77 41 51	9888
	Pollux W.	28 43 9	9735	30 19 16	9739	31 55 4	9754	33 30 32	9788
	SATURN E.	48 8 18	9753	46 32 48	9708	44 57 38	9784	43 22 49	9798
	VENUS E.	49 6 17	3138	47 38 53	3155	46 11 50	3172	44 45 7	3188
	Spica E.	62 7 2	9739	60 31 0	9744	58 55 18	9760	57 19 57	9774
	SUN E.	89 1 36	3072	87 32 52	3088	86 4 28	3105	84 36 24	3182
12	Aldebaran W.	85 30 16	9876	87 3 6	9889	88 35 39	9901	90 7 57	9912
	Pollux W.	41 23 19	9836	42 57 0	9848	44 30 25	9880	46 3 35	9873
	SATURN E.	35 33 24	9888	34 0 24	9880	32 27 40	9893	30 55 12	9905
	Spica E.	49 28 0	9846	47 54 32	9859	46 21 21	9873	44 48 27	9885
	SUN E.	77 20 50	3197	75 54 37	3210	74 28 40	3224	73 2 59	3237
13	Pollux W.	53 45 45	9996	55 17 31	9935	56 49 5	9945	58 20 27	9954
	Regulus W.	17 44 57	3080	19 13 56	3061	20 43 6	3045	22 12 23	3048
	Spica E.	37 7 56	9846	35 36 36	9858	34 5 30	9889	32 34 38	9881
	SUN E.	65 58 17	3296	64 34 1	3307	63 9 58	3318	61 46 7	3398
14	Pollux W.	65 54 36	9993	67 24 57	9900	68 55 10	9906	70 25 15	9913
	Regulus W.	29 39 15	3043	31 8 34	3047	32 37 49	3049	34 7 1	3059
	SUN E.	54 49 36	3372	53 26 47	3379	52 4 7	3386	50 41 35	3393
15	Pollux W.	77 53 52	3039	79 23 17	3043	80 52 37	3047	82 21 52	3051
	Regulus W.	41 32 6	3088	43 0 57	3089	44 29 44	3072	45 58 28	3073
	SUN E.	43 50 45	3423	42 28 54	3428	41 7 9	3432	39 45 20	3438
16	Pollux W.	89 47 4	3085	91 15 57	3087	92 44 47	3089	94 13 35	3076
	Regulus W.	53 21 30	3083	54 50 0	3085	56 18 28	3086	57 46 55	3087
	SUN E.	32 58 19	3454	31 37 4	3458	30 15 53	3461	28 54 45	3463
17	Regulus W.	65 8 56	3089	66 37 19	3089	68 5 42	3089	69 34 5	3088
	SATURN W.	24 12 38	3109	25 40 37	3110	27 8 35	3110	28 36 33	3110
	SUN E.	22 9 43	3474	20 48 50	3477	19 28 0	3480	18 7 13	3483
20	SUN W.	10 36 42	3471	11 57 39	3456	13 18 52	3445	14 40 18	3435
	α Aquilæ E.	58 35 5	4316	57 28 27	4356	56 22 26	4400	55 17 5	4447
	Fomalhaut E.	82 52 37	3215	81 26 46	3213	80 0 52	3211	78 34 56	3209
	MARS E.	87 25 56	3263	86 1 1	3259	84 36 2	3255	83 10 58	3252
21	SUN W.	21 30 0	3395	22 52 22	3388	24 14 52	3389	25 37 29	3375
	α Aquilæ E.	50 2 6	4757	49 1 54	4836	48 2 47	4889	47 4 50	5018
	Fomalhaut E.	71 24 46	3203	69 58 40	3201	68 32 32	3201	67 6 24	3200

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
9	SATURN E. SUN E.	67 43 41 107 15 58	9545 9646	66 3 31 105 42 33	9564 9666	64 23 46 104 9 33	9583 9687	62 44 27 102 36 58	9600 9697
10	α Arietis W. Aldebaran W. VENUS E. SATURN E. Spica E. SUN E.	96 50 2 66 32 55 54 59 28 54 33 53 68 34 51 95 0 9	9739 9704 3066 9687 9693 3001	98 26 13 68 9 20 53 30 37 52 56 56 66 57 20 93 29 58	9738 9719 3064 9704 9679 3019	100 2 2 69 45 43 52 2 8 51 20 22 65 20 12 92 0 9	9756 9735 3103 9790 9695 3037	101 37 27 71 21 36 50 34 2 49 44 9 63 43 26 90 30 42	9779 9750 3120 9737 9712 3054
11	Aldebaran W. Pollux W. SATURN E. VENUS E. Spica E. SUN E.	79 16 8 35 5 42 41 48 19 43 18 44 55 44 55 83 8 40	9693 9769 9813 3004 9789 3137	80 50 6 36 40 33 40 14 8 41 52 40 54 10 13 81 41 15	9636 9706 9698 3090 9804 3153	82 23 47 38 15 6 38 40 16 40 26 54 52 35 50 80 14 9	9656 9810 9841 3036 9818 3166	83 57 10 39 49 21 37 6 41 39 1 27 51 1 46 78 47 21	9683 9693 9655 3050 9632 3186
12	Aldebaran W. Pollux W. SATURN E. Spica E. SUN E.	91 40 0 47 36 29 29 23 0 43 15 49 71 37 34	9994 9883 9916 9898 3050	93 11 48 49 9 9 27 51 2 41 43 28 70 12 24	9936 9895 9998 9910 3069	94 43 21 50 41 34 26 19 19 40 11 22 68 47 28	9947 9905 9939 9999 3074	96 14 40 52 13 46 24 47 50 38 39 31 67 22 46	9958 9916 9950 9935 3085
13	Pollux W. Regulus W. Spica E. SUN E.	59 51 37 23 41 44 31 4 1 60 22 28	3008 3040 9993 3338	61 22 37 25 11 7 29 33 38 58 59 0	2971 3039 3003 3346	62 53 26 26 40 31 28 3 29 57 35 42	2978 3040 3014 3355	64 24 6 28 9 54 26 33 34 56 12 34	2998 3042 3096 3364
14	Pollux W. Regulus W. SUN E.	71 55 12 35 36 9 49 19 11	3018 3055 3400	73 25 2 37 5 14 47 56 54	3094 3068 3407	74 54 45 38 34 15 46 34 45	3099 3061 3419	76 24 22 40 3 12 45 12 42	3034 3064 3417
15	Pollux W. Regulus W. SUN E.	83 51 2 47 27 10 38 23 55	3064 3076 3441	85 20 8 48 55 49 37 2 25	3057 3078 3445	86 49 10 50 24 25 35 40 59	3080 3080 3448	88 18 9 51 52 59 34 19 37	3063 3069 3459
16	Pollux W. Regulus W. SUN E.	95 42 21 59 15 21 27 33 39	3071 3087 3465	97 11 6 60 43 46 26 12 36	3073 3086 3468	98 39 49 62 12 10 24 51 36	3073 3089 3470	100 8 31 63 40 33 23 30 38	3074 3089 3479
17	Regulus W. SATURN W. SUN E.	71 2 29 30 4 31 16 46 30	3067 3109 3487	72 30 54 31 32 30 15 25 51	3067 3109 3492	73 59 19 33 0 29 14 5 18	3067 3108 3497	75 27 45 34 28 29 12 44 51	3065 3106 3503
20	SUN W. α Aquilæ E. Fomalhaut E. MARS E.	16 1 55 54 12 26 77 8 58 81 45 50	3425 4499 3908 3947	17 23 43 53 8 33 75 42 58 80 20 37	3417 4556 3905 3943	18 45 40 52 5 30 74 16 55 78 55 19	3409 4616 3904 3939	20 7 46 51 3 19 72 50 51 77 29 56	3408 4684 3904 3934
21	SUN W. α Aquilæ E. Fomalhaut E.	27 0 14 46 8 9 65 40 15	3368 5193 3900	28 23 7 45 12 48 64 14 6	3399 5237 3900	29 46 7 44 18 54 62 47 57	3365 5292 3900	31 9 15 43 26 32 61 21 48	3347 5503 3902

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
21	MARS	E.	76° 4' 27"	3330	74° 38' 53"	3325	73° 13' 13"	3320	71° 47' 28"	3314
	α Pegasi	E.	92 13 4	3365	90 50 7	3359	89 27 4	3354	88 3 55	3350
22	SUN	W.	32 32 32	3340	33 55 57	3333	35 19 30	3325	36 43 12	3318
	Fomalhaut	E.	59 55 41	3303	58 29 35	3305	57 3 32	3308	55 37 32	3310
	MARS	E.	64 37 3	3186	63 10 37	3180	61 44 4	3173	60 17 23	3166
	α Pegasi	E.	81 7 0	3332	79 43 25	3329	78 19 47	3327	76 56 7	3325
23	SUN	W.	43 43 58	3276	45 8 37	3268	46 33 26	3259	47 58 25	3249
	Fomalhaut	E.	48 28 43	3239	47 3 20	3249	45 38 9	3250	44 13 10	3273
	MARS	E.	53 1 51	3130	51 34 18	3123	50 6 36	3114	48 38 44	3105
	α Pegasi	E.	69 57 19	3321	68 33 32	3323	67 9 47	3324	65 46 3	3326
	JUPITER	E.	90 4 35	2881	88 31 52	2873	86 58 59	2866	85 25 56	2857
24	SUN	W.	55 6 17	3198	56 32 29	3188	57 58 53	3176	59 25 31	3165
	MARS	E.	41 16 45	3061	39 47 48	3052	38 18 40	3043	36 49 20	3033
	α Pegasi	E.	58 48 23	3351	57 25 11	3359	56 2 8	3370	54 39 17	3381
	JUPITER	E.	77 37 52	2811	76 3 39	2801	74 29 13	2792	72 54 34	2781
	α Arietis	E.	99 14 19	2898	97 41 57	2887	96 9 22	2876	94 36 33	2866
25	SUN	W.	66 42 14	3103	68 10 20	3089	69 38 43	3076	71 7 22	3063
	JUPITER	E.	64 57 47	2795	63 21 41	2713	61 45 19	2701	60 6 40	2689
	α Arietis	E.	86 48 54	2809	85 14 38	2797	83 40 6	2785	82 5 19	2772
26	SUN	W.	78 34 56	2969	80 5 22	2974	81 36 7	2959	83 7 11	2943
	JUPITER	E.	52 1 9	2822	50 22 44	2809	48 44 1	2804	47 4 58	2800
	α Arietis	E.	74 7 17	2710	72 30 51	2697	70 54 7	2684	69 17 6	2672
	Aldebaran	E.	104 22 57	2684	102 45 55	2669	101 8 33	2654	99 30 51	2638
27	SUN	W.	90 47 35	2892	92 20 43	2845	93 54 12	2828	95 28 3	2811
	α Aquilæ	W.	48 35 40	4305	49 42 28	4300	50 50 54	4103	52 0 53	4012
	JUPITER	E.	38 44 41	2505	37 3 35	2490	35 22 8	2475	33 40 19	2459
	α Arietis	E.	61 7 42	2607	59 28 57	2596	57 49 56	2583	56 10 38	2571
	Aldebaran	E.	91 17 11	2562	89 37 24	2546	87 57 15	2530	86 16 44	2515
28	SUN	W.	103 22 56	2795	104 59 3	2707	106 35 33	2690	108 12 26	2673
	α Aquilæ	W.	58 11 31	3642	59 29 20	3582	60 48 14	3525	62 8 11	3471
	α Arietis	E.	47 50 9	2517	46 9 20	2510	44 28 20	2502	42 47 9	2496
	Aldebaran	E.	77 48 43	2436	76 6 0	2422	74 22 56	2406	72 39 30	2391
29	SUN	W.	116 22 36	2589	118 1 46	2572	119 41 19	2556	121 21 14	2540
	α Aquilæ	W.	69 1 53	3947	70 27 7	3909	71 53 5	3175	73 19 44	3142
	Fomalhaut	W.	35 57 18	2806	37 31 38	2749	39 7 13	2697	40 43 57	2649
	MARS	W.	22 22 18	2499	24 3 32	2478	25 45 16	2458	27 27 28	2438
	Aldebaran	E.	63 56 55	2317	62 11 21	2304	60 25 28	2291	58 39 15	2279
	Pollux	E.	107 44 36	2264	105 57 44	2249	104 10 30	2234	102 22 53	2218
30	α Aquilæ	W.	80 42 7	3069	82 12 9	2988	83 42 37	2969	85 13 28	2952
	Fomalhaut	W.	49 2 13	2462	50 44 19	2433	52 27 7	2406	54 10 33	2381
	MARS	W.	36 5 2	2353	37 49 44	2337	39 34 49	2323	41 20 15	2309
	Aldebaran	E.	49 43 47	2294	47 55 55	2215	46 7 50	2206	44 19 34	2201
	Pollux	E.	93 19 16	2147	91 29 29	2135	89 39 23	2122	87 48 57	2110

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
21	MARS E.	70° 21' 36"	3909	68° 55' 38"	3904	67° 29' 33"	3196	66° 3' 21"	3193
	α Pegasi E.	86 40 41	3345	85 17 22	3342	83 53 59	3338	82 30 31	3335
22	SUN W.	38 7 2	3310	39 31 2	3302	40 55 11	3394	42 19 30	3366
	Fomalhaut E.	54 11 35	3314	52 45 43	3219	51 19 56	3395	49 54 16	3331
	MARS E.	58 50 33	3159	57 23 35	3153	55 56 29	3145	54 29 14	3138
	α Pegasi E.	75 32 24	3323	74 8 39	3322	72 44 53	3321	71 21 6	3321
23	SUN W.	49 23 36	3340	50 48 58	3320	52 14 32	3390	53 40 18	3309
	Fomalhaut E.	42 48 27	3288	41 24 2	3306	39 59 57	3326	38 36 16	3350
	MARS E.	47 10 41	3097	45 42 28	3089	44 14 5	3080	42 45 31	3070
	α Pegasi E.	64 22 22	3329	62 58 44	3333	61 35 11	3338	60 11 43	3345
	JUPITER E.	83 52 42	2848	82 19 17	2840	80 45 41	2831	79 11 53	2821
24	SUN W.	60 52 22	3153	62 19 28	3141	63 46 48	3129	65 14 23	3115
	MARS E.	35 19 48	3023	33 50 4	3014	32 20 8	3004	30 50 0	2993
	α Pegasi E.	53 16 39	3325	51 54 17	3411	50 32 13	3430	49 10 30	3451
	JUPITER E.	71 19 41	2770	69 44 34	2760	68 9 13	2742	66 33 37	2738
	α Arietis E.	93 3 30	2855	91 30 13	2843	89 56 41	2832	88 22 55	2821
25	SUN W.	72 36 17	3048	74 5 30	3034	75 35 0	3019	77 4 49	3005
	JUPITER E.	58 31 45	2676	56 54 33	2663	55 17 3	2649	53 39 15	2636
	α Arietis E.	80 30 15	2780	78 54 55	2748	77 19 19	2735	75 43 26	2723
26	SUN W.	84 38 35	2927	86 10 19	2912	87 42 23	2895	89 14 48	2878
	JUPITER E.	45 25 35	2565	43 45 52	2551	42 5 49	2535	40 25 25	2521
	α Arietis E.	67 39 48	2659	66 2 13	2646	64 24 20	2633	62 46 10	2620
	Aldebaran E.	97 52 48	2624	96 14 25	2606	94 35 41	2593	92 56 37	2577
27	SUN W.	97 2 17	2794	98 36 53	2777	100 11 51	2760	101 47 12	2742
	α Aquilæ W.	53 12 21	3297	54 25 13	3260	55 39 24	3276	56 54 51	3207
	JUPITER E.	31 58 8	2443	30 15 35	2437	28 32 39	2412	26 49 21	2396
	α Arietis E.	54 31 3	2550	52 51 12	2546	51 11 6	2538	49 30 45	2527
	Aldebaran E.	84 35 52	2498	82 54 38	2484	81 13 2	2468	79 31 4	2452
28	SUN W.	109 49 42	2657	111 27 21	2639	113 5 23	2622	114 43 48	2605
	α Aquilæ W.	63 29 7	3421	64 51 0	3373	66 13 47	3399	67 37 25	3386
	α Arietis E.	41 5 50	2491	39 24 24	2487	37 42 53	2486	36 1 20	2487
	Aldebaran E.	70 55 42	2375	69 11 32	2361	67 27 1	2346	65 42 8	2332
29	SUN W.	123 1 32	2525	124 42 11	2510	126 23 11	2494	128 4 32	2480
	α Aquilæ W.	74 47 3	3111	76 14 59	3082	77 43 30	3056	79 12 33	3031
	Fomalhaut W.	42 21 46	2605	44 0 34	2565	45 40 17	2598	47 20 51	2494
	MARS W.	29 10 8	2420	30 53 14	2402	32 36 46	2385	34 20 42	2368
	Aldebaran E.	56 52 44	2266	55 5 55	2254	53 18 48	2243	51 31 25	2233
	Pollux E.	100 34 53	2204	98 46 31	2189	96 57 47	2175	95 8 42	2161
30	α Aquilæ W.	86 44 41	2938	88 16 12	2994	89 48 0	2913	91 20 2	2904
	Fomalhaut W.	55 54 35	2357	57 39 11	2335	59 24 19	2315	61 9 56	2296
	MARS W.	43 6 1	2226	44 52 6	2263	46 38 30	2271	48 25 12	2260
	Aldebaran E.	42 31 8	2196	40 42 34	2193	38 53 56	2191	37 5 15	2192
	Pollux E.	85 58 13	2066	84 7 10	2066	82 15 50	2075	80 24 13	2066

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Added to Apparent Time.				
Thur.	1	16 ^h 32 ^m 37.46 ^s	10.815	S. 21° 56' 9.8"	-22.49	16' 16.07"	70.36	10 ^m 33.79 ^s	0.957		
Frid.	2	16 36 57.35	10.842	22 4 57.8	21.43	16 16.22	70.44	10 10.53	0.983		
Sat.	3	16 41 17.84	10.866	22 13 20.2	20.36	16 16.36	70.52	9 46.67	1.007		
SUN.	4	16 45 38.90	10.890	22 21 16.7	-19.28	16 16.50	70.60	9 22.24	1.031		
Mon.	5	16 50 0.51	10.912	22 28 47.3	18.19	16 16.63	70.68	8 57.25	1.053		
Tues.	6	16 54 22.67	10.934	22 35 51.7	17.10	16 16.75	70.75	8 31.71	1.075		
Wed.	7	16 58 45.34	10.954	22 42 29.6	-16.00	16 16.87	70.81	8 5.67	1.095		
Thur.	8	17 3 8.50	10.974	22 48 40.6	14.89	16 16.99	70.87	7 39.14	1.115		
Frid.	9	17 7 32.12	10.993	22 54 24.8	13.76	16 17.10	70.93	7 12.16	1.134		
Sat.	10	17 11 56.18	11.010	22 59 41.9	-12.63	16 17.20	70.99	6 44.73	1.151		
SUN.	11	17 16 20.65	11.026	23 4 31.7	11.49	16 17.30	71.04	6 16.90	1.167		
Mon.	12	17 20 45.50	11.042	23 8 54.1	10.34	16 17.40	71.08	5 48.69	1.183		
Tues.	13	17 25 10.69	11.056	23 12 48.9	- 9.19	16 17.49	71.12	5 20.13	1.197		
Wed.	14	17 29 36.21	11.069	23 16 15.9	8.03	16 17.58	71.16	4 51.24	1.210		
Thur.	15	17 34 2.01	11.079	23 19 15.0	6.87	16 17.66	71.19	4 22.08	1.220		
Frid.	16	17 38 28.05	11.089	23 21 46.2	- 5.70	16 17.74	71.22	3 52.68	1.230		
Sat.	17	17 42 54.30	11.097	23 23 49.3	4.54	16 17.81	71.25	3 23.07	1.237		
SUN.	18	17 47 20.72	11.104	23 25 24.1	3.36	16 17.88	71.27	2 53.29	1.244		
Mon.	19	17 51 47.27	11.109	23 26 30.6	- 2.18	16 17.95	71.28	2 23.38	1.249		
Tues.	20	17 56 13.91	11.112	23 27 8.7	- 1.00	16 18.01	71.28	1 53.38	1.252		
Wed.	21	18 0 40.60	11.113	23 27 18.6	+ 0.18	16 18.07	71.29	1 23.33	1.253		
Thur.	22	18 5 7.32	11.113	23 27 0.1	+ 1.36	16 18.12	71.29	0 53.26	1.253		
Frid.	23	18 9 34.00	11.111	23 26 13.3	2.54	16 18.17	71.29	0 23.21	1.251		
Sat.	24	18 14 0.62	11.108	23 24 58.1	3.72	16 18.22	71.28	0 6.77	1.248		
SUN.	25	18 18 27.14	11.103	23 23 14.6	+ 4.90	16 18.26	71.27	0 36.65	1.243		
Mon.	26	18 22 53.53	11.097	23 21 2.9	6.07	16 18.30	71.25	1 6.40	1.237		
Tues.	27	18 27 19.76	11.089	23 18 23.0	7.24	16 18.33	71.23	1 35.98	1.229		
Wed.	28	18 31 45.78	11.080	23 15 15.1	+ 8.41	16 18.36	71.20	2 5.36	1.220		
Thur.	29	18 36 11.57	11.070	23 11 39.2	9.57	16 18.38	71.17	2 34.51	1.210		
Frid.	30	18 40 37.09	11.058	23 7 35.5	10.73	16 18.39	71.14	3 3.40	1.198		
Sat.	31	18 45 2.32	11.045	23 3 4.1	11.88	16 18.40	71.10	3 31.99	1.185		
SUN.	32	18 49 27.22	11.031	S. 22 58 5.0	+13.03	16 18.41	71.06	4 0.26	1.171		

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.
 The sign — prefixed to the hourly change of declination indicates that south declinations are increasing;
 the sign + indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Subtracted from Mean Time.			
Thur.	1	16 ^h 32 ^m 39.37 ^s	10.813	S. 21° 56' 13.7"	-22.50	10 ^m 33.62 ^s	0.957	16 ^h 43 ^m 12.99 ^s	
Frid.	2	16 36 59.19	10.839	22 5 1.4	21.44	10 10.36	0.983	16 47 9.55	
Sat.	3	16 41 19.61	10.863	22 13 23.5	20.37	9 46.50	1.007	16 51 6.11	
SUN.	4	16 45 40.60	10.887	22 21 19.7	-19.29	9 22.07	1.031	16 55 2.67	
Mon.	5	16 50 2.14	10.909	22 28 50.0	18.20	8 57.09	1.053	16 58 59.23	
Tues.	6	16 54 24.22	10.931	22 35 54.1	17.11	8 31.56	1.075	17 2 55.78	
Wed.	7	16 58 46.82	10.951	22 42 31.7	-16.01	8 5.52	1.095	17 6 52.34	
Thur.	8	17 3 9.90	10.971	22 48 42.5	14.90	7 39.00	1.115	17 10 48.90	
Frid.	9	17 7 33.44	10.990	22 54 26.4	13.77	7 12.02	1.134	17 14 45.46	
Sat.	10	17 11 57.42	11.007	22 59 43.3	-12.64	6 44.60	1.151	17 18 42.02	
SUN.	11	17 16 21.81	11.023	23 4 32.9	11.50	6 16.77	1.167	17 22 38.58	
Mon.	12	17 20 46.57	11.039	23 8 55.1	10.35	5 48.57	1.183	17 26 35.14	
Tues.	13	17 25 11.68	11.053	23 12 49.7	- 9.20	5 20.02	1.197	17 30 31.70	
Wed.	14	17 29 37.11	11.065	23 16 16.5	8.04	4 51.14	1.210	17 34 28.25	
Thur.	15	17 34 2.82	11.076	23 19 15.5	6.88	4 21.99	1.221	17 38 24.81	
Frid.	16	17 38 28.77	11.086	23 21 46.5	- 5.71	3 52.60	1.230	17 42 21.37	
Sat.	17	17 42 54.93	11.094	23 23 49.4	4.54	3 23.00	1.237	17 46 17.93	
SUN.	18	17 47 21.26	11.100	23 25 24.1	3.36	2 53.23	1.244	17 50 14.49	
Mon.	19	17 51 47.72	11.105	23 26 30.5	- 2.18	2 23.33	1.249	17 54 11.05	
Tues.	20	17 56 14.27	11.108	23 27 8.7	- 1.00	1 53.34	1.252	17 58 7.61	
Wed.	21	18 0 40.87	11.109	23 27 18.6	+ 0.18	1 23.30	1.253	18 2 4.17	
Thur.	22	18 5 7.49	11.109	23 27 0.1	+ 1.36	0 53.23	1.253	18 6 0.72	
Frid.	23	18 9 34.08	11.107	23 26 13.3	2.54	0 23.20	1.251	18 9 57.28	
Sat.	24	18 14 0.61	11.104	23 24 58.1	3.72	0 6.77	1.248	18 13 53.84	
SUN.	25	18 18 27.04	11.099	23 23 14.6	+ 4.90	0 36.64	1.243	18 17 50.40	
Mon.	26	18 22 53.34	11.093	23 21 2.9	6.07	1 6.38	1.237	18 21 46.96	
Tues.	27	18 27 19.47	11.085	23 18 23.2	7.24	1 35.95	1.229	18 25 43.52	
Wed.	28	18 31 45.40	11.076	23 15 15.4	+ 8.41	2 5.32	1.220	18 29 40.08	
Thur.	29	18 36 11.10	11.066	23 11 39.6	9.57	2 34.46	1.210	18 33 36.64	
Frid.	30	18 40 36.53	11.054	23 7 36.0	10.73	3 3.34	1.198	18 37 33.19	
Sat.	31	18 45 1.67	11.041	23 3 4.7	11.88	3 31.92	1.185	18 41 29.75	
SUN.	32	18 49 26.49	11.027	S. 22 58 5.8	+13.02	4 0.18	1.171	18 45 26.31	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing; the sign + indicates that south declinations are decreasing.

Diff. for 1 hour,
+9^s.8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S					Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	336	249° 49' 22.2	48° 46.9	152.13	+ 0.12	9.9936934	-28.1	^h 7 ^m 15 ^s 35.45	
2	337	250 50 13.8	49 38.3	152.17	0.25	9.9936271	27.1	7 11 39.54	
3	338	251 51 6.3	50 30.7	152.21	0.37	9.9935634	26.1	7 7 43.63	
4	339	252 51 59.8	51 24.0	152.25	+ 0.47	9.9935023	-25.0	7 3 47.72	
5	340	253 52 54.3	52 18.3	152.30	0.55	9.9934437	24.0	6 59 51.80	
6	341	254 53 49.9	53 13.7	152.34	0.61	9.9933876	22.9	6 55 55.89	
7	342	255 54 46.6	54 10.2	152.39	+ 0.64	9.9933341	-21.8	6 51 59.98	
8	343	256 55 44.3	55 7.8	152.44	0.65	9.9932831	20.7	6 48 4.07	
9	344	257 56 43.1	56 6.4	152.49	0.62	9.9932346	19.7	6 44 8.15	
10	345	258 57 43.1	57 6.2	152.53	+ 0.56	9.9931885	-18.7	6 40 12.24	
11	346	259 58 44.2	58 7.1	152.57	0.48	9.9931446	17.8	6 36 16.33	
12	347	260 59 46.4	59 9.1	152.61	0.37	9.9931028	17.0	6 32 20.42	
13	348	262 0 49.5	0 12.0	152.65	+ 0.24	9.9930630	-16.2	6 28 24.50	
14	349	263 1 53.5	1 15.8	152.69	+ 0.11	9.9930251	15.4	6 24 28.59	
15	350	264 2 58.5	2 20.6	152.73	- 0.02	9.9929890	14.7	6 20 32.68	
16	351	265 4 4.4	3 26.3	152.76	- 0.16	9.9929547	-14.0	6 16 36.77	
17	352	266 5 11.1	4 32.8	152.79	0.28	9.9929220	13.3	6 12 40.85	
18	353	267 6 18.4	5 39.9	152.81	0.39	9.9928906	12.7	6 8 44.94	
19	354	268 7 26.2	6 47.5	152.83	- 0.47	9.9928612	-12.0	6 4 49.03	
20	355	269 8 34.5	7 55.6	152.85	0.52	9.9928333	11.3	6 0 53.11	
21	356	270 9 43.2	9 4.1	152.87	0.55	9.9928070	10.6	5 56 57.19	
22	357	271 10 52.1	10 12.8	152.88	- 0.55	9.9927824	- 9.9	5 53 1.28	
23	358	272 12 1.2	11 21.7	152.88	0.51	9.9927595	9.1	5 49 5.37	
24	359	273 13 10.4	12 30.7	152.88	0.44	9.9927385	8.3	5 45 9.46	
25	360	274 14 19.6	13 39.7	152.88	- 0.35	9.9927194	- 7.5	5 41 13.54	
26	361	275 15 28.7	14 48.6	152.88	0.25	9.9927025	6.6	5 37 17.63	
27	362	276 16 37.8	15 57.5	152.88	0.13	9.9926878	5.6	5 33 21.72	
28	363	277 17 46.8	17 6.3	152.88	- 0.01	9.9926756	- 4.6	5 29 25.81	
29	364	278 18 55.7	18 15.0	152.87	+ 0.12	9.9926659	3.5	5 25 29.89	
30	365	279 20 4.4	19 23.5	152.86	0.24	9.9926588	2.4	5 21 33.98	
31	366	280 21 12.9	20 31.8	152.86	0.35	9.9926543	1.3	5 17 38.07	
32	367	281 22 21.3	21 40.0	152.85	+ 0.45	9.9926526	- 0.1	5 13 42.16	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 1 st .									Diff. for 1 Hour, — 9 ^h .8296, (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	16 35.3	16 38.9	60 46.4	+1.23	60 59.4	+0.90	^h 9 42.9 ^m	^m 2.29	^d 12.0
2	16 41.2	16 42.3	61 8.0	+0.53	61 12.2	+0.15	10 40.2	2.48	13.0
3	16 42.2	16 40.7	61 11.5	-0.26	61 6.0	-0.65	11 42.2	2.65	14.0
4	16 37.9	16 33.9	60 55.8	-1.04	60 41.0	-1.40	12 47.3	2.72	15.0
5	16 28.8	16 22.7	60 22.3	1.70	60 0.1	1.96	13 52.7	2.66	16.0
6	16 15.9	16 8.6	59 35.2	2.16	59 8.2	2.31	14 55.0	2.49	17.0
7	16 0.9	15 53.0	58 39.8	-2.39	58 10.8	-2.42	15 52.1	2.25	18.0
8	15 45.1	15 37.3	57 41.8	2.39	57 13.4	2.33	16 43.6	2.02	19.0
9	15 29.9	15 22.8	56 46.0	2.23	56 20.0	2.09	17 30.1	1.85	20.0
10	15 16.2	15 10.2	55 55.9	-1.92	55 33.9	-1.74	18 12.9	1.73	21.0
11	15 4.8	15 0.1	55 14.1	1.55	54 56.7	1.35	18 53.5	1.66	22.0
12	14 56.0	14 52.6	54 41.7	1.15	54 29.2	0.94	19 33.2	1.64	23.0
13	14 49.8	14 47.7	54 19.1	-0.75	54 11.3	-0.55	20 13.0	1.68	24.0
14	14 46.3	14 45.4	54 5.9	0.36	54 2.7	-0.18	20 54.3	1.76	25.0
15	14 45.1	14 45.3	54 1.6	-0.02	54 2.3	+0.13	21 37.7	1.86	26.0
16	14 46.0	14 47.1	54 4.8	+0.28	54 8.9	+0.40	22 24.1	1.98	27.0
17	14 48.6	14 50.5	54 14.4	0.52	54 21.3	0.62	23 13.5	2.10	28.0
18	14 52.6	14 55.1	54 29.3	0.71	54 38.3	0.79	6		29.0
19	14 57.8	15 0.8	54 48.3	+0.87	54 59.2	+0.94	0 5.5	2.20	0.2
20	15 3.9	15 7.3	55 10.8	1.00	55 23.1	1.05	0 59.0	2.23	1.2
21	15 10.8	15 14.5	55 36.1	1.11	55 49.7	1.16	1 52.4	2.21	2.2
22	15 18.4	15 22.5	56 4.0	+1.22	56 19.0	+1.28	2 44.6	2.13	3.2
23	15 26.8	15 31.2	56 34.6	1.33	56 50.8	1.38	3 34.6	2.04	4.2
24	15 35.8	15 40.5	57 7.7	1.43	57 25.2	1.46	4 22.5	1.96	5.2
25	15 45.4	15 50.5	57 43.2	+1.52	58 1.6	+1.54	5 9.0	1.91	6.2
26	15 55.5	16 0.6	58 20.1	1.55	58 38.7	1.56	5 55.0	1.92	7.2
27	16 5.7	16 10.4	58 57.1	1.50	59 14.9	1.42	6 42.0	1.99	8.2
28	16 15.0	16 19.1	59 31.6	+1.34	59 47.0	+1.21	7 31.4	2.12	9.2
29	16 22.9	16 25.9	60 0.6	1.03	60 11.8	0.83	8 24.6	2.30	10.2
30	16 28.2	16 29.7	60 20.4	+0.58	60 25.8	+0.30	9 22.4	2.49	11.2
31	16 30.2	16 29.7	60 27.7	0.00	60 25.9	-0.31	10 24.7	2.64	12.2
32	16 28.1	16 25.7	60 20.3	-0.63	60 10.9	-0.93	11 29.2	2.69	13.2

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 1.					SATURDAY 3.				
0	2 4 57.14	2.3075	N. 12 15 28.3	15.846	0	4 3 47.44	2.6463	N. 23 5 3.4	16.358
1	2 7 15.78	2.3139	12 31 17.2	15.783	1	4 6 26.41	2.6598	23 15 19.9	16.189
2	2 9 34.81	2.3203	12 47 2.3	15.720	2	4 9 5.77	2.6591	23 25 26.2	16.020
3	2 11 54.22	2.3267	13 2 43.6	15.654	3	4 11 45.50	2.6653	23 35 22.3	15.846
4	2 14 14.02	2.3333	13 18 20.8	15.586	4	4 14 25.60	2.6714	23 45 8.0	15.675
5	2 16 34.22	2.3401	13 33 53.9	15.516	5	4 17 6.07	2.6776	23 54 43.3	15.500
6	2 18 54.83	2.3468	13 49 22.7	15.443	6	4 19 46.91	2.6836	24 4 8.0	15.328
7	2 21 15.84	2.3535	14 4 47.0	15.368	7	4 22 28.10	2.6893	24 13 22.0	15.149
8	2 23 37.25	2.3603	14 20 6.8	15.291	8	4 25 9.63	2.6949	24 22 25.2	14.964
9	2 25 59.07	2.3672	14 35 21.9	15.212	9	4 27 51.49	2.7004	24 31 17.6	14.780
10	2 28 21.31	2.3742	14 50 32.2	15.130	10	4 30 33.68	2.7058	24 39 59.0	14.597
11	2 30 43.97	2.3811	15 5 37.5	15.046	11	4 33 16.19	2.7119	24 48 29.3	14.412
12	2 33 7.04	2.3881	15 20 37.7	14.960	12	4 35 59.02	2.7163	24 56 48.4	14.224
13	2 35 30.54	2.3952	15 35 32.7	14.873	13	4 38 42.15	2.7213	25 4 56.2	14.038
14	2 37 54.46	2.4023	15 50 22.3	14.789	14	4 41 25.58	2.7268	25 12 52.7	13.846
15	2 40 18.81	2.4094	16 5 6.5	14.699	15	4 44 9.29	2.7308	25 20 37.7	13.654
16	2 42 43.59	2.4166	16 19 45.0	14.593	16	4 46 53.28	2.7354	25 28 11.1	13.461
17	2 45 8.80	2.4238	16 34 17.7	14.496	17	4 49 37.54	2.7398	25 35 33.0	13.267
18	2 47 31.45	2.4311	16 48 44.5	14.396	18	4 52 22.06	2.7441	25 42 43.2	13.073
19	2 50 0.53	2.4384	17 3 5.2	14.294	19	4 55 6.83	2.7481	25 49 41.6	12.879
20	2 52 27.05	2.4457	17 17 19.8	14.191	20	4 57 51.83	2.7519	25 56 28.1	12.686
21	2 54 54.01	2.4530	17 31 28.1	14.084	21	5 0 37.06	2.7557	26 3 2.7	12.492
22	2 57 21.41	2.4603	17 45 29.9	13.975	22	5 3 22.51	2.7592	26 9 25.3	12.297
23	2 59 49.25	2.4677	N. 17 59 25.1	13.864	23	5 6 8.16	2.7625	N. 26 15 35.9	12.103
FRIDAY 2.					SUNDAY 4.				
0	3 2 17.53	2.4751	N. 18 13 13.6	13.751	0	5 8 54.01	2.7657	N. 26 21 34.4	11.909
1	3 4 46.26	2.4825	18 26 55.2	13.635	1	5 11 40.04	2.7687	26 27 20.7	11.715
2	3 7 15.43	2.4898	18 40 29.8	13.517	2	5 14 26.25	2.7715	26 32 54.7	11.521
3	3 9 45.04	2.4972	18 53 57.2	13.397	3	5 17 12.62	2.7741	26 38 16.4	11.328
4	3 12 15.10	2.5046	19 7 17.4	13.274	4	5 19 59.14	2.7764	26 43 25.8	11.134
5	3 14 45.60	2.5120	19 20 30.1	13.149	5	5 22 45.79	2.7785	26 48 22.9	10.940
6	3 17 16.54	2.5193	19 33 35.3	13.022	6	5 25 32.56	2.7805	26 53 7.6	10.746
7	3 19 47.92	2.5267	19 46 32.8	12.893	7	5 28 19.45	2.7823	26 57 39.8	10.552
8	3 22 19.75	2.5341	19 59 22.4	12.761	8	5 31 6.44	2.7838	27 1 59.5	10.358
9	3 24 52.02	2.5415	20 12 4.1	12.627	9	5 33 53.51	2.7852	27 6 6.7	10.164
10	3 27 24.73	2.5488	20 24 37.6	12.490	10	5 36 40.66	2.7863	27 10 1.3	9.970
11	3 29 57.87	2.5560	20 37 2.9	12.352	11	5 39 27.87	2.7872	27 13 43.3	9.776
12	3 32 31.45	2.5633	20 49 19.9	12.212	12	5 42 15.13	2.7880	27 17 12.8	9.582
13	3 35 5.47	2.5706	21 1 28.4	12.069	13	5 45 2.43	2.7885	27 20 29.6	9.388
14	3 37 39.92	2.5777	21 13 28.2	11.924	14	5 47 49.75	2.7887	27 23 33.8	9.194
15	3 40 14.79	2.5848	21 25 19.3	11.777	15	5 50 37.08	2.7888	27 26 25.4	8.999
16	3 42 50.09	2.5918	21 37 1.5	11.627	16	5 53 24.41	2.7887	27 29 4.3	8.805
17	3 45 25.81	2.5989	21 48 34.6	11.476	17	5 56 11.72	2.7883	27 31 30.5	8.611
18	3 48 1.96	2.6059	21 59 58.6	11.323	18	5 58 59.00	2.7877	27 33 44.1	8.417
19	3 50 38.52	2.6128	22 11 13.3	11.167	19	6 1 46.24	2.7868	27 35 45.0	8.223
20	3 53 15.49	2.6197	22 22 18.6	11.009	20	6 4 33.42	2.7857	27 37 33.3	8.029
21	3 55 52.88	2.6265	22 33 14.4	10.849	21	6 7 20.53	2.7845	27 39 9.0	7.835
22	3 58 30.67	2.6333	22 44 0.5	10.687	22	6 10 7.56	2.7830	27 40 32.0	7.641
23	4 1 8.86	2.6398	22 54 36.9	10.524	23	6 12 54.49	2.7813	27 41 42.5	7.447
24	4 3 47.44	2.6463	N. 23 5 3.4	10.358	24	6 15 41.32	2.7794	N. 27 42 40.4	7.253

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 5.					WEDNESDAY 7.				
0	6 ^h 15 ^m 41.32	2.7794	N.27° 42' 40.4"	0.880	0	8 ^h 23 ^m 19.26	2.4834	N.24° 41' 17.2"	7.881
1	6 18 28.02	2.7779	27 43 25.7	0.851	1	8 25 48.00	2.4746	24 33 21.3	8.002
2	6 21 14.59	2.7749	27 43 58.5	0.442	2	8 28 16.21	2.4657	24 25 17.0	8.142
3	6 24 1.01	2.7793	27 44 18.8	0.934	3	8 30 43.88	2.4568	24 17 4.3	8.279
4	6 26 47.27	2.7698	27 44 26.6	+ 0.097	4	8 33 11.02	2.4478	24 8 43.5	8.414
5	6 29 33.36	2.7606	27 44 22.0	- 0.180	5	8 35 37.62	2.4389	24 0 14.6	8.547
6	6 32 19.26	2.7634	27 44 5.0	0.388	6	8 38 3.69	2.4300	23 51 37.8	8.678
7	6 35 4.97	2.7600	27 43 35.7	0.591	7	8 40 29.22	2.4210	23 42 53.2	8.808
8	6 37 50.46	2.7563	27 42 54.1	0.706	8	8 42 54.21	2.4120	23 34 0.8	8.936
9	6 40 35.73	2.7525	27 42 0.2	1.000	9	8 45 18.66	2.4030	23 25 0.8	9.062
10	6 43 20.76	2.7485	27 40 54.1	1.303	10	8 47 42.57	2.3940	23 15 53.3	9.186
11	6 46 5.55	2.7443	27 39 35.9	1.404	11	8 50 5.94	2.3849	23 6 38.5	9.307
12	6 48 50.08	2.7399	27 38 5.6	1.605	12	8 52 28.76	2.3759	22 57 16.4	9.427
13	6 51 34.34	2.7353	27 36 23.3	1.805	13	8 54 51.04	2.3669	22 47 47.2	9.546
14	6 54 18.32	2.7305	27 34 29.0	2.003	14	8 57 12.79	2.3580	22 38 10.9	9.662
15	6 57 2.00	2.7255	27 32 22.9	2.200	15	8 59 34.00	2.3490	22 28 27.7	9.777
16	6 59 45.38	2.7203	27 30 5.0	2.397	16	9 1 54.67	2.3400	22 18 37.7	9.889
17	7 2 28.44	2.7150	27 27 35.3	2.593	17	9 4 14.80	2.3310	22 8 41.0	9.999
18	7 5 11.18	2.7095	27 24 53.8	2.787	18	9 6 34.39	2.3221	21 58 37.8	10.108
19	7 7 53.58	2.7038	27 22 0.8	2.979	19	9 8 53.45	2.3132	21 48 28.1	10.215
20	7 10 35.64	2.6980	27 18 56.3	3.170	20	9 11 11.97	2.3043	21 38 12.0	10.320
21	7 13 17.34	2.6919	27 15 40.4	3.360	21	9 13 29.96	2.2954	21 27 49.7	10.423
22	7 15 58.67	2.6857	27 12 13.1	3.548	22	9 15 47.42	2.2866	21 17 21.2	10.525
23	7 18 39.63	2.6795	N.27 8 34.6	3.735	23	9 18 4.35	2.2778	N.21 6 46.7	10.624
TUESDAY 6.					THURSDAY 8.				
0	7 21 20.21	2.6730	N.27 4 44.9	3.921	0	9 20 20.76	2.2691	N.20 56 6.3	10.723
1	7 24 0.39	2.6663	27 0 44.1	4.105	1	9 22 36.64	2.2604	20 45 20.0	10.819
2	7 26 40.17	2.6598	26 56 32.3	4.287	2	9 24 52.00	2.2517	20 34 28.0	10.912
3	7 29 19.54	2.6528	26 52 9.6	4.468	3	9 27 6.84	2.2431	20 23 30.5	11.004
4	7 31 58.50	2.6457	26 47 36.1	4.647	4	9 29 21.17	2.2345	20 12 27.5	11.096
5	7 34 37.02	2.6384	26 42 51.9	4.825	5	9 31 34.98	2.2259	20 1 19.0	11.186
6	7 37 15.10	2.6310	26 37 57.1	5.001	6	9 33 48.28	2.2174	19 50 5.2	11.273
7	7 39 52.74	2.6236	26 32 51.8	5.175	7	9 36 1.07	2.2090	19 38 46.2	11.359
8	7 42 29.94	2.6162	26 27 36.1	5.348	8	9 38 13.36	2.2007	19 27 22.1	11.449
9	7 45 6.68	2.6085	26 22 10.0	5.519	9	9 40 25.15	2.1924	19 15 53.1	11.534
10	7 47 42.96	2.6007	26 16 33.8	5.688	10	9 42 36.44	2.1841	19 4 19.2	11.605
11	7 50 18.77	2.5928	26 10 47.5	5.855	11	9 44 47.24	2.1759	18 52 40.5	11.685
12	7 52 54.10	2.5848	26 4 51.2	6.021	12	9 46 57.55	2.1677	18 40 57.0	11.763
13	7 55 28.95	2.5768	25 58 45.0	6.184	13	9 49 7.37	2.1597	18 29 9.0	11.838
14	7 58 3.32	2.5687	25 52 29.1	6.346	14	9 51 16.71	2.1517	18 17 16.5	11.913
15	8 0 37.20	2.5605	25 46 3.5	6.506	15	9 53 25.57	2.1437	18 5 19.5	11.986
16	8 3 10.58	2.5522	25 39 28.4	6.664	16	9 55 33.95	2.1358	17 53 18.2	12.057
17	8 5 43.46	2.5437	25 32 43.8	6.821	17	9 57 41.87	2.1281	17 41 12.7	12.126
18	8 8 15.83	2.5352	25 25 49.9	6.975	18	9 59 49.32	2.1204	17 29 3.1	12.194
19	8 10 47.69	2.5267	25 18 46.8	7.127	19	10 1 56.31	2.1127	17 16 49.4	12.261
20	8 13 19.04	2.5182	25 11 34.6	7.278	20	10 4 2.84	2.1051	17 4 31.8	12.326
21	8 15 49.88	2.5096	25 4 13.4	7.427	21	10 6 8.92	2.0976	16 52 10.3	12.390
22	8 18 20.20	2.5009	24 56 43.4	7.573	22	10 8 14.55	2.0902	16 39 45.0	12.452
23	8 20 49.99	2.4922	24 49 4.6	7.718	23	10 10 19.74	2.0826	16 27 16.0	12.512
24	8 23 19.26	2.4834	N.24 41 17.2	7.861	24	10 12 24.48	2.0754	N.16 14 43.5	12.571

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 9.					SUNDAY 11.				
0	^h 10 ^m 12 ^s 24.48	2.0754	N. 16° 14' 43.5"	12.571	0	^h 11 ^m 45 ^s 14.08	1.8857	N. 5° 26' 4.7"	14.847
1	10 14 28.79	2.0699	16 2 7.5	12.592	1	11 47 3.53	1.8887	5 12 1.7	14.854
2	10 16 32.67	2.0619	15 49 28.0	12.687	2	11 48 52.80	1.8197	4 57 58.2	14.861
3	10 18 36.13	2.0549	15 36 45.0	12.743	3	11 50 41.90	1.8169	4 43 54.3	14.867
4	10 20 39.17	2.0479	15 23 58.8	12.797	4	11 52 30.83	1.8141	4 29 50.1	14.872
5	10 22 41.79	2.0409	15 11 9.4	12.849	5	11 54 19.59	1.8113	4 15 45.7	14.876
6	10 24 43.99	2.0333	14 58 16.9	12.900	6	11 56 8.19	1.8087	4 1 41.0	14.879
7	10 26 45.79	2.0267	14 45 21.4	12.950	7	11 57 56.63	1.8069	3 47 36.2	14.889
8	10 28 47.19	2.0201	14 32 22.9	12.999	8	11 59 44.93	1.8037	3 33 31.2	14.894
9	10 30 48.20	2.0136	14 19 21.5	13.047	9	12 1 33.08	1.8013	3 19 26.1	14.895
10	10 32 48.82	2.0071	14 6 17.3	13.093	10	12 3 21.09	1.7981	3 5 21.0	14.895
11	10 34 49.05	2.0007	13 53 10.4	13.138	11	12 5 8.97	1.7969	2 51 15.9	14.894
12	10 36 48.90	1.9943	13 40 0.8	13.189	12	12 6 56.71	1.7947	2 37 10.9	14.893
13	10 38 48.37	1.9889	13 26 48.6	13.234	13	12 8 44.33	1.7937	2 23 5.9	14.892
14	10 40 47.48	1.9821	13 13 33.9	13.285	14	12 10 31.83	1.7907	2 9 1.1	14.879
15	10 42 46.22	1.9760	13 0 16.8	13.304	15	12 12 19.22	1.7889	1 54 56.5	14.875
16	10 44 44.60	1.9700	12 46 57.4	13.343	16	12 14 6.50	1.7871	1 40 52.1	14.871
17	10 46 42.62	1.9641	12 33 35.6	13.389	17	12 15 53.67	1.7853	1 26 48.0	14.867
18	10 48 40.29	1.9583	12 20 11.6	13.418	18	12 17 40.73	1.7836	1 12 44.1	14.868
19	10 50 37.62	1.9527	12 6 45.5	13.453	19	12 19 27.70	1.7821	0 58 40.6	14.865
20	10 52 34.61	1.9471	11 53 17.2	13.489	20	12 21 14.58	1.7807	0 44 37.5	14.848
21	10 54 31.27	1.9416	11 39 46.9	13.521	21	12 23 1.38	1.7793	0 30 34.8	14.841
22	10 56 27.60	1.9361	11 26 14.7	13.553	22	12 24 48.10	1.7789	0 16 32.6	14.832
23	10 58 23.60	1.9307	N. 11° 12' 40.5"	13.585	23	12 26 34.74	1.7786	N. 0° 2' 30.9"	14.823
SATURDAY 10.					MONDAY 12.				
0	11 0 19.28	1.9254	N. 10° 59' 4.5"	13.614	0	12 28 21.31	1.7757	S. 0° 11' 30.2"	14.813
1	11 2 14.65	1.9203	10 45 26.8	13.643	1	12 30 7.82	1.7746	0 25 30.7	14.803
2	11 4 9.72	1.9159	10 31 47.3	13.678	2	12 31 54.26	1.7735	0 39 36.6	13.983
3	11 6 4.48	1.9109	10 18 6.2	13.698	3	12 33 40.64	1.7726	0 53 29.0	13.969
4	11 7 58.94	1.9053	10 4 23.5	13.734	4	12 35 26.97	1.7718	1 7 28.4	13.960
5	11 9 53.12	1.9006	9 50 39.3	13.749	5	12 37 13.26	1.7711	1 21 26.2	13.956
6	11 11 47.01	1.8959	9 36 53.6	13.773	6	12 38 59.50	1.7704	1 35 23.2	13.942
7	11 13 40.62	1.8912	9 23 6.5	13.796	7	12 40 45.70	1.7696	1 49 19.3	13.936
8	11 15 33.95	1.8866	9 9 18.1	13.817	8	12 42 31.87	1.7683	2 3 14.6	13.914
9	11 17 27.01	1.8821	8 55 28.4	13.838	9	12 44 18.02	1.7689	2 17 9.0	13.886
10	11 19 19.80	1.8778	8 41 37.5	13.858	10	12 46 4.14	1.7685	2 31 2.4	13.868
11	11 21 12.34	1.8735	8 27 45.4	13.878	11	12 47 50.24	1.7683	2 44 54.8	13.885
12	11 23 4.62	1.8693	8 13 52.1	13.897	12	12 49 36.33	1.7681	2 58 46.2	13.846
13	11 24 56.65	1.8659	7 59 57.8	13.914	13	12 51 22.41	1.7679	3 12 36.6	13.839
14	11 26 48.44	1.8619	7 46 2.5	13.930	14	12 53 8.48	1.7676	3 26 25.8	13.810
15	11 28 39.99	1.8573	7 32 6.2	13.946	15	12 54 54.55	1.7679	3 40 13.8	13.790
16	11 30 31.31	1.8534	7 18 9.0	13.961	16	12 56 40.63	1.7681	3 54 0.6	13.776
17	11 32 22.40	1.8496	7 4 10.9	13.975	17	12 58 26.72	1.7689	4 7 46.2	13.759
18	11 34 13.26	1.8459	6 50 12.0	13.988	18	13 0 12.81	1.7684	4 21 30.6	13.739
19	11 36 3.91	1.8424	6 36 12.3	14.000	19	13 1 58.92	1.7686	4 35 13.7	13.706
20	11 37 54.35	1.8389	6 22 12.0	14.011	20	13 3 45.06	1.7692	4 48 55.4	13.663
21	11 39 44.58	1.8355	6 8 11.0	14.022	21	13 5 31.22	1.7696	5 2 35.7	13.609
22	11 41 34.61	1.8322	5 54 9.4	14.031	22	13 7 17.41	1.7702	5 16 14.6	13.637
23	11 43 24.44	1.8289	5 40 7.3	14.039	23	13 9 3.64	1.7709	5 29 52.1	13.612
24	11 45 14.08	1.8257	N. 5° 26' 4.7"	14.047	24	13 10 49.91	1.7716	S. 5° 43' 28.1"	13.567

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 13.					THURSDAY 15.				
0	13 10 49.91	1.7716	S. 5 43' 28.1"	13.587	0	14 37 58.67	1.8841	S. 15 53' 26.9"	11.558
1	13 12 36.23	1.7723	5 57 2.6	13.569	1	14 39 51.83	1.8878	16 4 58.2	11.491
2	13 14 22.59	1.7731	6 10 35.5	13.534	2	14 41 45.21	1.8916	16 16 25.8	11.429
3	13 16 9.00	1.7740	6 24 6.7	13.506	3	14 43 38.82	1.8955	16 27 49.7	11.367
4	13 17 55.47	1.7750	6 37 36.2	13.477	4	14 45 32.67	1.8995	16 39 9.8	11.303
5	13 19 42.00	1.7761	6 51 4.0	13.449	5	14 47 26.76	1.9034	16 50 26.1	11.239
6	13 21 28.60	1.7773	7 4 30.1	13.420	6	14 49 21.08	1.9074	17 1 38.5	11.174
7	13 23 15.27	1.7785	7 17 54.4	13.390	7	14 51 15.65	1.9116	17 12 47.0	11.108
8	13 25 2.02	1.7797	7 31 16.9	13.360	8	14 53 10.47	1.9157	17 23 51.5	11.042
9	13 26 48.84	1.7810	7 44 37.6	13.329	9	14 55 5.53	1.9198	17 34 52.0	10.974
10	13 28 35.74	1.7824	7 57 56.4	13.297	10	14 57 0.85	1.9241	17 45 48.4	10.905
11	13 30 22.73	1.7840	8 11 13.2	13.264	11	14 58 56.42	1.9283	17 56 40.6	10.836
12	13 32 9.82	1.7856	8 24 28.0	13.230	12	15 0 52.24	1.9325	18 7 28.7	10.766
13	13 33 57.00	1.7872	8 37 40.8	13.196	13	15 2 48.32	1.9368	18 18 12.5	10.694
14	13 35 44.28	1.7888	8 50 51.5	13.162	14	15 4 44.66	1.9412	18 28 52.0	10.622
15	13 37 31.66	1.7906	9 4 0.2	13.127	15	15 6 41.27	1.9457	18 39 27.2	10.550
16	13 39 19.15	1.7924	9 17 6.8	13.091	16	15 8 38.14	1.9501	18 49 58.0	10.476
17	13 41 6.75	1.7943	9 30 11.1	13.054	17	15 10 35.28	1.9546	19 0 24.3	10.403
18	13 42 54.46	1.7962	9 43 13.2	13.017	18	15 12 32.69	1.9591	19 10 46.2	10.327
19	13 44 42.29	1.7982	9 56 13.1	12.979	19	15 14 30.37	1.9636	19 21 3.5	10.249
20	13 46 30.25	1.8004	10 9 10.7	12.940	20	15 16 28.32	1.9682	19 31 16.1	10.171
21	13 48 18.34	1.8026	10 22 5.9	12.900	21	15 18 26.55	1.9728	19 41 24.0	10.093
22	13 50 6.56	1.8048	10 34 58.7	12.859	22	15 20 25.06	1.9774	19 51 27.2	10.014
23	13 51 54.92	1.8071	S. 10 47 49.0	12.817	23	15 22 23.84	1.9820	S. 20 1 25.7	9.936
WEDNESDAY 14.					FRIDAY 16.				
0	13 53 43.41	1.8094	S. 11 0 36.8	12.776	0	15 24 22.90	1.9867	S. 20 11 19.4	9.854
1	13 55 32.05	1.8119	11 13 22.1	12.734	1	15 26 22.24	1.9914	20 21 8.2	9.779
2	13 57 20.84	1.8143	11 26 4.9	12.692	2	15 28 21.87	1.9960	20 30 52.0	9.699
3	13 59 9.77	1.8168	11 38 45.1	12.648	3	15 30 21.78	2.0009	20 40 30.8	9.605
4	14 0 58.86	1.8195	11 51 22.7	12.603	4	15 32 21.98	2.0057	20 50 4.6	9.520
5	14 2 48.11	1.8222	12 3 57.5	12.558	5	15 34 22.47	2.0105	20 59 33.2	9.434
6	14 4 37.52	1.8249	12 16 29.6	12.512	6	15 36 23.24	2.0153	21 8 56.7	9.348
7	14 6 27.09	1.8276	12 28 58.9	12.465	7	15 38 24.30	2.0202	21 18 15.0	9.261
8	14 8 16.83	1.8305	12 41 25.4	12.417	8	15 40 25.66	2.0251	21 27 28.0	9.179
9	14 10 6.75	1.8335	12 53 49.0	12.369	9	15 42 27.31	2.0299	21 36 35.6	9.092
10	14 11 56.85	1.8365	13 6 9.7	12.320	10	15 44 29.25	2.0348	21 45 37.8	9.009
11	14 13 47.13	1.8395	13 18 27.4	12.270	11	15 46 31.48	2.0397	21 54 34.6	8.921
12	14 15 37.59	1.8426	13 30 42.1	12.220	12	15 48 34.01	2.0446	22 3 25.9	8.828
13	14 17 28.24	1.8457	13 42 53.8	12.168	13	15 50 36.83	2.0495	22 12 11.6	8.715
14	14 19 19.08	1.8489	13 55 2.3	12.116	14	15 52 39.95	2.0544	22 20 51.7	8.602
15	14 21 10.11	1.8522	14 7 7.7	12.063	15	15 54 43.36	2.0593	22 29 26.2	8.537
16	14 23 1.34	1.8555	14 19 9.9	12.010	16	15 56 47.07	2.0642	22 37 54.9	8.430
17	14 24 52.77	1.8588	14 31 8.9	11.956	17	15 58 51.07	2.0692	22 46 17.8	8.323
18	14 26 44.40	1.8622	14 43 4.6	11.901	18	16 0 55.37	2.0742	22 54 34.8	8.234
19	14 28 36.24	1.8657	14 54 57.0	11.845	19	16 2 59.97	2.0791	23 2 45.9	8.136
20	14 30 28.29	1.8693	15 6 46.0	11.787	20	16 5 4.86	2.0840	23 10 51.1	8.037
21	14 32 20.56	1.8729	15 18 31.5	11.729	21	16 7 10.05	2.0889	23 18 50.3	7.936
22	14 34 13.04	1.8765	15 30 13.5	11.671	22	16 9 15.53	2.0938	23 26 43.4	7.834
23	14 36 5.74	1.8803	15 41 52.0	11.612	23	16 11 21.31	2.0987	23 34 30.4	7.732
24	14 37 58.67	1.8841	S. 15 53 26.9	11.552	24	16 13 27.38	2.1037	S. 23 42 11.2	7.628

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 17.					MONDAY 19.				
0	h m s	s	S. 23° 42' 11.2"	7.898	0	h m s	s	S. 27° 32' 16.3"	1.881
1	16 13 27.38	2.1037	23 49 45.8	7.594	1	18 1 46.67	2.2955	27 33 51.7	1.588
2	16 15 33.75	2.1134	23 57 14.1	7.417	2	18 4 4.49	2.2960	27 35 18.7	1.379
3	16 17 40.41	2.1183	24 4 35.9	7.310	3	18 6 22.43	2.3001	27 36 37.2	1.337
4	16 19 47.36	2.1239	24 11 51.3	7.263	4	18 8 40.50	2.3028	27 37 47.2	1.285
5	16 21 54.61	2.1280	24 19 0.3	7.096	5	18 10 58.69	2.3042	27 38 48.6	0.952
6	16 24 2.15	2.1328	24 26 2.8	6.987	6	18 13 17.00	2.3060	27 39 41.5	0.810
7	16 26 9.97	2.1376	24 32 58.7	6.876	7	18 15 35.41	2.3077	27 40 25.8	0.687
8	16 28 18.08	2.1424	24 39 47.9	6.765	8	18 17 53.93	2.3094	27 41 1.5	0.583
9	16 30 26.48	2.1472	24 46 30.5	6.654	9	18 20 12.54	2.3109	27 41 28.6	0.379
10	16 32 35.17	2.1519	24 53 6.4	6.541	10	18 22 31.24	2.3124	27 41 47.0	0.225
11	16 34 44.14	2.1566	24 59 35.4	6.427	11	18 24 50.03	2.3138	27 41 56.8	- 0.091
12	16 36 53.39	2.1612	25 5 57.6	6.312	12	18 27 8.90	2.3151	27 41 57.9	+ 0.054
13	16 39 2.93	2.1658	25 12 12.9	6.197	13	18 29 27.84	2.3162	27 41 50.3	0.180
14	16 41 12.74	2.1705	25 18 21.2	6.080	14	18 31 46.85	2.3173	27 41 34.0	0.343
15	16 43 22.83	2.1751	25 24 22.5	5.962	15	18 34 5.92	2.3182	27 41 9.1	0.469
16	16 45 33.20	2.1795	25 30 16.7	5.844	16	18 36 25.04	2.3191	27 40 35.4	0.625
17	16 47 43.84	2.1839	25 36 3.8	5.726	17	18 38 44.21	2.3198	27 39 52.9	0.781
18	16 49 54.74	2.1883	25 41 43.8	5.606	18	18 41 3.43	2.3207	27 39 1.7	0.927
19	16 52 5.91	2.1927	25 47 16.5	5.484	19	18 43 22.69	2.3212	27 38 1.7	1.073
20	16 54 17.34	2.1971	25 52 41.9	5.363	20	18 45 41.98	2.3217	27 36 53.0	1.217
21	16 56 29.04	2.2015	25 58 0.1	5.241	21	18 48 1.29	2.3220	27 35 35.6	1.263
22	17 0 53.22	2.2057	26 3 10.9	5.117	22	18 50 20.62	2.3223	27 34 9.4	1.510
23	17 3 5.69	2.2099	S. 26° 8' 14.2"	4.993	23	18 52 39.97	2.3225	S. 27° 32' 34.4"	1.656
SUNDAY 18.					TUESDAY 20.				
0	h m s	s	S. 26° 13' 10.1"	4.869	0	h m s	s	S. 27° 30' 50.7"	1.882
1	17 5 18.41	2.2141	26 17 58.5	4.743	1	18 54 59.32	2.3226	27 28 58.2	1.946
2	17 7 31.38	2.2182	26 22 39.3	4.617	2	18 57 18.68	2.3226	27 26 56.9	2.094
3	17 9 44.59	2.2229	26 27 12.5	4.489	3	18 59 38.03	2.3229	27 24 46.9	2.240
4	17 11 58.04	2.2262	26 31 38.0	4.361	4	19 1 57.37	2.3229	27 22 28.1	2.386
5	17 14 11.73	2.2301	26 35 55.8	4.232	5	19 4 16.69	2.3219	27 20 0.6	2.532
6	17 16 25.65	2.2339	26 40 5.9	4.103	6	19 6 36.00	2.3216	27 17 24.3	2.677
7	17 18 39.80	2.2377	26 44 8.2	3.973	7	19 8 55.28	2.3210	27 14 39.3	2.822
8	17 20 54.18	2.2415	26 48 2.6	3.843	8	19 11 14.52	2.3204	27 11 45.6	2.968
9	17 23 8.78	2.2452	26 51 49.2	3.711	9	19 13 33.73	2.3198	27 8 43.1	3.114
10	17 25 23.60	2.2488	26 55 27.9	3.578	10	19 15 52.90	2.3191	27 5 31.9	3.260
11	17 27 38.63	2.2523	26 58 58.6	3.445	11	19 18 12.02	2.3182	27 2 12.0	3.403
12	17 29 53.87	2.2558	27 2 21.3	3.311	12	19 20 31.08	2.3173	26 58 43.5	3.547
13	17 32 9.32	2.2592	27 5 35.9	3.177	13	19 22 50.08	2.3162	26 55 6.3	3.692
14	17 34 24.97	2.2624	27 8 42.5	3.043	14	19 25 9.02	2.3150	26 51 20.5	3.836
15	17 36 40.81	2.2656	27 11 41.0	2.907	15	19 27 27.88	2.3136	26 47 26.0	3.980
16	17 38 56.84	2.2688	27 14 31.4	2.771	16	19 30 46.67	2.3125	26 43 22.9	4.123
17	17 41 13.06	2.2719	27 17 13.5	2.634	17	19 32 5.38	2.3111	26 39 11.2	4.266
18	17 43 29.47	2.2750	27 19 47.4	2.497	18	19 34 24.00	2.3096	26 34 51.0	4.408
19	17 45 46.06	2.2779	27 22 13.1	2.359	19	19 36 42.53	2.3081	26 30 22.2	4.551
20	17 48 2.82	2.2807	27 24 30.5	2.220	20	19 39 0.97	2.3064	26 25 44.9	4.693
21	17 50 19.74	2.2834	27 26 39.5	2.080	21	19 41 19.30	2.3046	26 20 59.1	4.834
22	17 52 36.82	2.2860	27 28 40.1	1.941	22	19 43 37.52	2.3028	26 16 4.8	4.975
23	17 54 54.06	2.2886	27 30 32.4	1.802	23	19 45 55.63	2.3009	26 11 2.1	5.115
24	17 57 11.45	2.2911	S. 27° 32' 16.3"	1.661	24	19 48 13.63	2.2990	S. 26° 5' 51.0"	5.255
25	17 59 28.99	2.2935							

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 21.					FRIDAY 23.				
0	19 50 31.51	2.2909	S. 26° 5' 51.0"	5.255	0	21 37 26.95	2.1474	S. 19° 24' 22.0"	11.100
1	19 52 49.26	2.2948	26 0 31.5	5.395	1	21 39 35.69	2.1440	19 13 8.8	11.971
2	19 55 6.89	2.2987	25 55 3.6	5.535	2	21 41 44.23	2.1406	19 1 49.4	11.373
3	19 57 24.39	2.3005	25 49 27.3	5.673	3	21 43 52.56	2.1372	18 50 24.0	11.473
4	19 59 41.75	2.2981	25 43 42.8	5.811	4	21 46 0.69	2.1338	18 38 52.6	11.573
5	20 1 58.96	2.2957	25 37 50.0	5.949	5	21 48 8.62	2.1305	18 27 15.3	11.671
6	20 4 16.03	2.2933	25 31 48.9	6.086	6	21 50 16.35	2.1272	18 15 32.1	11.768
7	20 6 32.95	2.2907	25 25 39.6	6.222	7	21 52 23.88	2.1239	18 3 43.1	11.864
8	20 8 49.72	2.2789	25 19 22.2	6.358	8	21 54 31.22	2.1207	17 51 48.4	11.959
9	20 11 6.33	2.2755	25 12 56.6	6.494	9	21 56 38.36	2.1174	17 39 48.0	12.053
10	20 13 22.78	2.2728	25 6 22.9	6.628	10	21 58 45.31	2.1142	17 27 42.0	12.147
11	20 15 39.07	2.2701	24 59 41.2	6.762	11	22 0 52.07	2.1110	17 15 30.4	12.239
12	20 17 55.20	2.2674	24 52 51.5	6.895	12	22 2 58.63	2.1078	17 3 13.3	12.330
13	20 20 11.16	2.2645	24 45 53.8	7.028	13	22 5 5.01	2.1048	16 50 50.8	12.420
14	20 22 26.94	2.2615	24 38 48.1	7.161	14	22 7 11.21	2.1018	16 38 22.9	12.510
15	20 24 42.54	2.2586	24 31 34.5	7.292	15	22 9 17.23	2.0988	16 25 49.6	12.599
16	20 26 57.97	2.2556	24 24 13.0	7.422	16	22 11 23.07	2.0958	16 13 11.0	12.688
17	20 29 13.22	2.2526	24 16 43.8	7.552	17	22 13 28.73	2.0928	16 0 27.3	12.771
18	20 31 28.28	2.2495	24 9 6.8	7.681	18	22 15 34.21	2.0899	15 47 38.5	12.856
19	20 33 43.16	2.2464	24 1 22.1	7.809	19	22 17 39.52	2.0871	15 34 44.6	12.941
20	20 35 57.85	2.2433	23 53 29.7	7.937	20	22 19 44.66	2.0843	15 21 45.6	13.024
21	20 38 12.35	2.2401	23 45 29.6	8.065	21	22 21 49.64	2.0816	15 8 41.7	13.108
22	20 40 26.66	2.2368	23 37 21.9	8.191	22	22 23 54.46	2.0789	14 55 32.9	13.187
23	20 42 40.77	2.2336	S. 23° 29' 6.7"	8.316	23	22 25 59.11	2.0762	S. 14° 42' 19.2"	13.267
THURSDAY 22.					SATURDAY 24.				
0	20 44 54.69	2.2303	S. 23° 20' 44.0"	8.441	0	22 28 3.60	2.0736	S. 14° 29' 0.8"	13.346
1	20 47 8.41	2.2270	23 12 13.8	8.564	1	22 30 7.94	2.0711	14 15 37.7	13.424
2	20 49 21.93	2.2236	23 3 36.3	8.687	2	22 32 12.13	2.0685	14 2 9.9	13.502
3	20 51 35.24	2.2203	22 54 51.4	8.809	3	22 34 16.16	2.0660	13 48 37.5	13.577
4	20 53 48.35	2.2168	22 45 59.2	8.931	4	22 36 20.05	2.0637	13 35 0.6	13.652
5	20 56 1.26	2.2135	22 36 59.7	9.052	5	22 38 23.80	2.0614	13 21 19.2	13.726
6	20 58 13.97	2.2101	22 27 53.0	9.171	6	22 40 27.42	2.0592	13 7 33.5	13.799
7	21 0 26.47	2.2066	22 18 39.2	9.289	7	22 42 30.90	2.0569	12 53 43.4	13.871
8	21 2 38.76	2.2031	22 9 18.3	9.407	8	22 44 34.24	2.0547	12 39 49.0	13.948
9	21 4 50.84	2.1996	21 59 50.3	9.525	9	22 46 37.46	2.0526	12 25 50.4	14.011
10	21 7 2.71	2.1963	21 50 15.3	9.641	10	22 48 40.55	2.0505	12 11 47.7	14.079
11	21 9 14.38	2.1927	21 40 33.4	9.756	11	22 50 43.52	2.0485	11 57 40.9	14.147
12	21 11 25.84	2.1892	21 30 44.6	9.871	12	22 52 46.37	2.0466	11 43 30.0	14.214
13	21 13 37.09	2.1857	21 20 48.9	9.984	13	22 54 49.11	2.0447	11 29 15.2	14.279
14	21 15 48.13	2.1822	21 10 46.5	10.096	14	22 56 51.74	2.0429	11 14 56.5	14.343
15	21 17 58.95	2.1786	21 0 37.4	10.207	15	22 58 54.26	2.0412	11 0 34.0	14.407
16	21 20 9.56	2.1751	20 50 21.6	10.318	16	23 0 56.68	2.0396	10 46 7.7	14.469
17	21 22 19.96	2.1717	20 39 59.2	10.428	17	23 2 59.01	2.0381	10 31 37.7	14.531
18	21 24 30.16	2.1682	20 29 30.3	10.537	18	23 5 1.25	2.0366	10 17 4.0	14.591
19	21 26 40.15	2.1647	20 18 54.8	10.645	19	23 7 3.40	2.0351	10 2 26.8	14.650
20	21 28 49.93	2.1612	20 8 12.9	10.753	20	23 9 5.46	2.0338	9 47 46.0	14.708
21	21 30 59.49	2.1577	19 57 24.6	10.858	21	23 11 7.43	2.0323	9 33 1.8	14.765
22	21 33 8.85	2.1542	19 46 30.0	10.963	22	23 13 9.33	2.0311	9 18 14.2	14.821
23	21 35 18.00	2.1508	19 35 29.1	11.067	23	23 15 11.16	2.0300	9 3 23.3	14.876
24	21 37 26.95	2.1474	S. 19° 24' 22.0"	11.169	24	23 17 12.93	2.0289	S. 8° 48' 29.1"	14.930

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 25.					TUESDAY 27.				
0	^h 23 ^m 17 ^s 12.93	2.0989	S. 8° 48' 29.1"	14.930	0	^h 05 ^m 54 ^s 53.43	2.0745	N. 3° 48' 39.0"	16.158
1	23 19 14.63	2.0978	8 33 31.7	14.988	1	05 56 57.99	2.0777	4 4 48.3	16.152
2	23 21 16.27	2.0969	8 18 31.2	15.034	2	05 59 2.75	2.0810	4 20 57.2	16.145
3	23 23 17.86	2.0961	8 3 27.6	15.085	3	1 1 7.71	2.0843	4 37 5.7	16.137
4	23 25 19.40	2.0953	7 48 21.0	15.134	4	1 3 12.87	2.0877	4 53 13.7	16.128
5	23 27 20.89	2.0945	7 33 11.5	15.189	5	1 5 18.24	2.0913	5 9 21.1	16.117
6	23 29 22.34	2.0938	7 17 59.2	15.239	6	1 7 23.83	2.0950	5 25 27.7	16.104
7	23 31 23.75	2.0933	7 2 44.1	15.275	7	1 9 29.64	2.0987	5 41 33.5	16.090
8	23 33 25.14	2.0929	6 47 26.2	15.321	8	1 11 35.67	2.1024	5 57 38.5	16.075
9	23 35 26.50	2.0924	6 32 5.6	15.365	9	1 13 41.93	2.1063	6 13 42.5	16.057
10	23 37 27.83	2.0921	6 16 42.4	15.407	10	1 15 48.43	2.1104	6 29 45.4	16.039
11	23 39 29.15	2.0919	6 1 16.7	15.449	11	1 17 55.18	2.1145	6 45 47.2	16.020
12	23 41 30.46	2.0918	5 45 48.5	15.490	12	1 20 2.17	2.1186	7 1 47.8	15.999
13	23 43 31.76	2.0917	5 30 17.9	15.529	13	1 22 9.41	2.1229	7 17 47.1	15.976
14	23 45 33.06	2.0917	5 14 45.0	15.567	14	1 24 16.92	2.1274	7 33 44.9	15.950
15	23 47 34.36	2.0918	4 59 9.8	15.605	15	1 26 24.70	2.1319	7 49 41.1	15.924
16	23 49 35.67	2.0920	4 43 32.4	15.641	16	1 28 32.75	2.1364	8 5 35.7	15.897
17	23 51 37.00	2.0923	4 27 52.9	15.676	17	1 30 41.07	2.1410	8 21 28.7	15.868
18	23 53 38.34	2.0925	4 12 11.3	15.710	18	1 32 49.67	2.1457	8 37 19.9	15.837
19	23 55 39.70	2.0930	3 56 27.7	15.743	19	1 34 58.56	2.1506	8 53 9.2	15.805
20	23 57 41.10	2.0936	3 40 42.2	15.773	20	1 37 7.74	2.1555	9 8 56.5	15.771
21	23 59 42.53	2.0943	3 24 54.9	15.803	21	1 39 17.22	2.1605	9 24 41.7	15.735
22	0 1 44.00	2.0949	3 9 5.8	15.833	22	1 41 27.00	2.1656	9 40 24.7	15.697
23	0 3 45.52	2.0957	S. 2° 53' 14.9"	15.862	23	1 43 37.09	2.1708	N. 9° 56' 5.4"	15.658
MONDAY 26.					WEDNESDAY 28.				
0	0 5 47.08	2.0965	S. 2° 37' 22.4"	15.888	0	1 45 47.50	2.1761	N. 10° 11' 43.7"	15.617
1	0 7 48.70	2.0976	2 21 28.3	15.914	1	1 47 58.23	2.1815	10 27 19.5	15.575
2	0 9 50.38	2.0985	2 5 32.7	15.938	2	1 50 9.28	2.1868	10 42 52.7	15.532
3	0 11 52.12	2.0996	1 49 35.7	15.963	3	1 52 20.65	2.1923	10 58 23.3	15.487
4	0 13 53.93	2.0308	1 33 37.3	15.983	4	1 54 32.36	2.1980	11 13 51.1	15.438
5	0 15 55.82	2.0322	1 17 37.7	16.003	5	1 56 44.41	2.2038	11 29 15.9	15.388
6	0 17 57.79	2.0336	1 1 36.9	16.023	6	1 58 56.81	2.2096	11 44 37.7	15.337
7	0 19 59.85	2.0351	0 45 34.9	16.043	7	2 1 9.56	2.2154	11 59 56.4	15.285
8	0 22 2.00	2.0366	0 29 31.9	16.059	8	2 3 22.66	2.2213	12 15 11.9	15.230
9	0 24 4.24	2.0383	S. 0° 13' 27.9"	16.075	9	2 5 36.11	2.2272	12 30 24.0	15.173
10	0 26 6.59	2.0401	N. 0° 2' 37.1"	16.090	10	2 7 49.93	2.2334	12 45 32.7	15.116
11	0 28 9.05	2.0419	0 18 42.9	16.103	11	2 10 4.12	2.2396	13 0 37.9	15.056
12	0 30 11.62	2.0438	0 34 49.4	16.114	12	2 12 18.68	2.2458	13 15 39.4	14.993
13	0 32 14.31	2.0459	0 50 56.6	16.125	13	2 14 33.61	2.2521	13 30 37.1	14.930
14	0 34 17.13	2.0481	1 7 4.4	16.135	14	2 16 48.93	2.2586	13 45 31.0	14.865
15	0 36 20.08	2.0503	1 23 12.8	16.143	15	2 19 4.64	2.2651	14 0 20.9	14.797
16	0 38 23.17	2.0525	1 39 21.6	16.150	16	2 21 20.74	2.2716	14 15 6.7	14.728
17	0 40 26.39	2.0549	1 55 30.8	16.156	17	2 23 37.23	2.2781	14 29 48.3	14.657
18	0 42 29.76	2.0575	2 11 40.3	16.160	18	2 25 54.11	2.2848	14 44 25.5	14.583
19	0 44 33.29	2.0602	2 27 50.0	16.163	19	2 28 11.40	2.2916	14 58 58.3	14.508
20	0 46 36.98	2.0629	2 43 59.9	16.165	20	2 30 29.10	2.2984	15 13 26.5	14.432
21	0 48 40.83	2.0656	3 0 9.8	16.164	21	2 32 47.20	2.3052	15 27 50.1	14.353
22	0 50 44.85	2.0685	3 16 19.6	16.163	22	2 35 5.72	2.3121	15 42 8.9	14.272
23	0 52 49.05	2.0715	3 32 29.4	16.162	23	2 37 24.65	2.3190	15 56 22.7	14.188
24	0 54 53.43	2.0745	N. 3° 48' 39.0"	16.158	24	2 39 44.00	2.3261	N. 16° 10' 31.4"	14.103

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 29.					SATURDAY 31.				
0	2 39 44.00	2.3361	N.16 10' 31.4"	14.103	0	4 39 50.85	2.6892	N.25 11' 17.3"	7.685
1	2 42 3.78	2.3332	16 24 35.0	14.017	1	4 42 31.18	2.6750	25 18 51.8	7.485
2	2 44 23.98	2.3403	16 38 33.4	13.928	2	4 45 11.85	2.6807	25 26 15.5	7.303
3	2 46 44.61	2.3474	16 52 26.4	13.837	3	4 47 52.86	2.6862	25 33 28.2	7.130
4	2 49 5.67	2.3547	17 6 13.9	13.744	4	4 50 34.19	2.6914	25 40 29.9	6.935
5	2 51 27.17	2.3590	17 19 55.7	13.649	5	4 53 15.83	2.6965	25 47 20.4	6.748
6	2 53 49.11	2.3693	17 33 31.8	13.553	6	4 55 57.77	2.7015	25 53 59.7	6.561
7	2 56 11.49	2.3767	17 47 2.1	13.454	7	4 58 40.01	2.7064	26 0 27.7	6.372
8	2 58 34.31	2.3840	18 0 26.3	13.353	8	5 1 22.54	2.7119	26 6 44.4	6.182
9	3 0 57.57	2.3914	18 13 44.4	13.250	9	5 4 5.35	2.7157	26 12 49.6	5.990
10	3 3 21.28	2.3989	18 26 56.3	13.145	10	5 6 48.43	2.7301	26 18 43.2	5.797
11	3 5 45.44	2.4063	18 40 1.8	13.037	11	5 9 31.76	2.7343	26 24 25.3	5.604
12	3 8 10.04	2.4137	18 53 0.8	12.928	12	5 12 15.34	2.7383	26 29 55.7	5.409
13	3 10 35.09	2.4213	19 5 53.2	12.817	13	5 14 59.16	2.7392	26 35 14.4	5.213
14	3 13 0.60	2.4289	19 18 38.9	12.704	14	5 17 43.21	2.7359	26 40 21.3	5.016
15	3 15 26.56	2.4365	19 31 17.7	12.589	15	5 20 27.47	2.7394	26 45 16.3	4.817
16	3 17 52.98	2.4441	19 43 49.6	12.473	16	5 23 11.94	2.7497	26 49 59.4	4.618
17	3 20 19.85	2.4516	19 56 14.4	12.352	17	5 25 56.60	2.7458	26 54 30.5	4.418
18	3 22 47.17	2.4592	20 8 31.9	12.231	18	5 28 41.44	2.7488	26 58 49.6	4.217
19	3 25 14.95	2.4667	20 20 42.1	12.107	19	5 31 26.46	2.7516	27 2 56.6	4.016
20	3 27 43.18	2.4743	20 32 44.8	11.982	20	5 34 11.63	2.7541	27 6 51.5	3.813
21	3 30 11.87	2.4819	20 44 39.9	11.854	21	5 36 56.95	2.7565	27 10 34.2	3.610
22	3 32 41.01	2.4895	20 56 27.3	11.724	22	5 39 42.47	2.7587	27 14 4.7	3.407
23	3 35 10.61	2.4971	N.21 8 6.8	11.592	23	5 42 27.99	2.7607	N.27 17 23.0	3.202
FRIDAY 30.					SUNDAY, JANUARY 1, 1893.				
0	3 37 40.66	2.5046	N.21 19 38.4	11.459	0	5 45 13.69	2.7634	N.27 20 29.0	2.997
1	3 40 11.16	2.5121	21 31 1.9	11.323	PHASES OF THE MOON.				
2	3 42 42.11	2.5196	21 42 17.2	11.185					
3	3 45 13.51	2.5271	21 53 24.1	11.044					
4	3 47 45.36	2.5345	22 4 22.5	10.903					
5	3 50 17.65	2.5418	22 15 12.4	10.760					
6	3 52 50.38	2.5492	22 25 53.7	10.614					
7	3 55 23.55	2.5565	22 36 26.1	10.466					
8	3 57 57.16	2.5637	22 46 49.6	10.316					
9	4 0 31.20	2.5709	22 57 4.0	10.163					
10	4 3 5.67	2.5780	23 7 9.2	10.010					
11	4 5 40.56	2.5851	23 17 5.2	9.855					
12	4 8 15.88	2.5922	23 26 51.8	9.697					
13	4 10 51.62	2.5991	23 36 28.9	9.537					
14	4 13 27.77	2.6059	23 45 56.3	9.376					
15	4 16 4.32	2.6126	23 55 14.0	9.219					
16	4 18 41.28	2.6193	24 4 21.8	9.047					
17	4 21 18.64	2.6260	24 13 19.7	8.881					
18	4 23 56.40	2.6326	24 22 7.5	8.719					
19	4 26 34.55	2.6399	24 30 45.1	8.542					
20	4 29 13.07	2.6459	24 39 12.5	8.370					
21	4 31 51.97	2.6514	24 47 29.5	8.196					
22	4 34 31.24	2.6575	24 55 36.0	8.021					
23	4 37 10.87	2.6634	25 3 32.0	7.844					
24	4 39 50.85	2.6692	N.25 11 17.3	7.665					

			d	h	m
○	Full Moon	. . . Dec.	3	14	17.2
☾	Last Quarter		10	14	29.6
●	New Moon		18	20	12.8
☾	First Quarter		26	9	22.5

			d	h
☾	Perigee	 Dec.	2	16.3
☾	Apogee		15	1.3
☾	Perigee		31	0.1

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
1	Fomalhaut W.	62° 56' 1"	2279	64° 42' 31"	2263	66° 29' 25"	2249	68° 16' 40"	2235
	MARS W.	50 12 10	2249	51 59 24	2239	53 46 53	2230	55 34 36	2222
	JUPITER W.	18 15 25	2048	20 7 45	2039	22 0 19	2030	23 53 7	2022
	Aldebaran E.	35 16 35	2194	33 27 59	2199	31 39 30	2206	29 51 14	2221
	Pollux E.	78 32 21	2056	76 40 14	2046	74 47 52	2038	72 55 17	2030
2	Fomalhaut W.	77 17 19	2186	79 6 7	2180	80 55 4	2176	82 44 8	2172
	MARS W.	64 36 1	2190	66 24 44	2185	68 13 34	2182	70 2 29	2180
	JUPITER W.	33 19 52	1993	35 13 38	1989	37 7 30	1986	39 1 27	1984
	Pollux E.	63 29 39	2001	61 36 6	1998	59 42 28	1994	57 48 45	1992
	Regulus E.	100 0 41	2012	98 7 25	2008	96 14 3	2005	94 20 36	2003
3	MARS W.	79 7 35	2179	80 56 34	2181	82 45 30	2184	84 34 21	2189
	JUPITER W.	48 31 39	1984	50 25 38	1986	52 19 34	1989	54 13 25	1994
	α Arietis W.	28 10 6	2290	29 56 20	2290	31 43 19	2236	33 30 53	2217
	Pollux E.	48 19 42	1993	46 25 56	1996	44 32 15	1999	42 38 39	2003
	Regulus E.	84 52 52	2003	82 59 22	2005	81 5 55	2009	79 12 34	2012
4	JUPITER W.	63 40 40	2025	65 33 35	2033	67 26 17	2042	69 18 45	2053
	α Arietis W.	42 33 57	2174	44 23 4	2173	46 12 12	2174	48 1 18	2176
	Pollux E.	33 12 43	2036	31 20 5	2046	29 27 42	2055	27 35 34	2066
	Regulus E.	69 47 47	2044	67 55 22	2053	66 3 11	2062	64 11 14	2073
5	JUPITER W.	78 36 54	2112	80 27 35	2125	82 17 56	2139	84 7 55	2154
	α Arietis W.	57 5 13	2209	58 53 27	2219	60 41 26	2230	62 29 9	2242
	Aldebaran W.	26 59 17	2293	28 44 43	2313	30 30 23	2309	32 16 9	2306
	Regulus E.	54 55 50	2136	53 5 45	2149	51 16 1	2165	49 26 40	2180
	SATURN E.	97 14 14	2138	95 24 13	2151	93 34 32	2166	91 45 13	2180
6	α Arietis W.	71 23 0	2311	73 8 43	2327	74 54 4	2343	76 39 1	2360
	Aldebaran W.	41 4 15	2336	42 49 22	2347	44 34 13	2359	46 18 47	2373
	Regulus E.	40 26 9	2269	38 39 21	2288	36 53 7	2309	35 7 20	2331
	SATURN E.	82 44 18	2260	80 57 20	2277	79 10 47	2295	77 24 40	2312
	Spica E.	94 24 23	2245	92 37 2	2262	90 50 7	2280	89 3 38	2297
7	Aldebaran W.	54 56 38	2446	56 39 7	2462	58 21 13	2480	60 2 55	2496
	SATURN E.	68 40 38	2405	66 57 10	2424	65 14 9	2443	63 31 35	2462
	Spica E.	80 17 45	2389	78 33 55	2409	76 50 33	2426	75 7 38	2447
8	Aldebaran W.	68 25 24	2585	70 4 40	2602	71 43 32	2621	73 21 59	2638
	Pollux W.	24 10 18	2545	25 50 29	2562	27 30 16	2580	29 9 38	2599
	SATURN E.	55 5 31	2558	53 25 38	2577	51 46 11	2596	50 7 10	2614
	Spica E.	66 39 49	2543	64 59 36	2562	63 19 49	2582	61 40 29	2601
	VENUS E.	86 11 52	2254	84 40 42	2275	83 9 58	2297	81 39 41	2317
	SUN E.	120 47 37	2886	119 15 0	2906	117 42 49	2926	116 11 3	2946
9	Aldebaran W.	81 28 16	2726	83 4 21	2744	84 40 3	2760	86 15 23	2777
	Pollux W.	37 20 23	2687	38 57 21	2704	40 33 56	2720	42 10 9	2737
	SATURN E.	41 58 21	2705	40 21 48	2722	38 45 38	2740	37 9 51	2757
	Spica E.	53 30 13	2693	51 53 24	2711	50 16 59	2729	48 40 58	2747
	VENUS E.	74 14 33	3118	72 46 45	3138	71 19 21	3157	69 52 20	3175
	SUN E.	108 38 30	3044	107 9 12	3064	105 40 18	3082	104 11 46	3101

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Fomalhaut	W.	70° 4' 15"	2223	71° 52' 8"	2212	73° 40' 18"	2209	75° 28' 42"	2194
	MARS	W.	57 22 31	2214	59 10 38	2206	60 58 57	2200	62 47 25	2194
	JUPITER	W.	25 46 7	2014	27 39 19	2008	29 32 41	2001	31 26 13	1997
	Aldebaran	E.	28 3 18	2239	26 15 49	2264	24 28 56	2297	22 42 52	2342
	Pollux	E.	71 2 30	2023	69 9 32	2016	67 16 23	2010	65 23 5	2005
2	Fomalhaut	W.	84 33 18	2169	86 22 32	2168	88 11 48	2167	90 1 5	2168
	MARS	W.	71 51 27	2178	73 40 28	2176	75 29 31	2176	77 18 34	2178
	JUPITER	W.	40 55 27	1982	42 49 29	1981	44 43 33	1981	46 37 37	1982
	Pollux	E.	55 54 58	1991	54 1 10	1990	52 7 20	1990	50 13 30	1991
	Regulus	E.	92 27 6	2001	90 33 33	2000	89 39 59	2000	86 46 25	2001
3	MARS	W.	86 23 5	2184	88 11 42	2190	90 0 11	2206	91 48 30	2213
	JUPITER	W.	56 7 9	1998	58 0 46	2004	59 54 14	2010	61 47 32	2017
	α Arietis	W.	35 18 55	2202	37 7 19	2190	38 56 1	2188	40 44 55	2177
	Pollux	E.	40 45 10	2009	38 51 49	2014	36 58 36	2021	35 5 34	2028
	Regulus	E.	77 19 19	2017	75 26 12	2023	73 33 13	2029	71 40 24	2037
4	JUPITER	W.	71 10 57	2063	73 2 53	2074	74 54 32	2086	76 45 53	2099
	α Arietis	W.	49 50 21	2180	51 39 18	2186	53 28 7	2192	55 16 46	2200
	Pollux	E.	25 43 43	2078	23 52 10	2091	22 0 57	2105	20 10 5	2120
	Regulus	E.	62 19 33	2084	60 28 9	2096	58 37 3	2108	56 46 16	2122
5	JUPITER	W.	85 57 32	2169	87 46 46	2185	89 35 36	2201	91 24 2	2217
	α Arietis	W.	64 16 34	2254	66 3 41	2268	67 50 28	2281	69 36 55	2296
	Aldebaran	W.	34 1 57	2309	35 47 43	2313	37 33 23	2320	39 18 54	2326
	Regulus	E.	47 37 43	2196	45 49 10	2214	44 1 3	2231	42 13 22	2250
	SATURN	E.	89 56 15	2195	88 7 40	2211	86 19 29	2227	84 31 41	2243
6	α Arietis	W.	78 23 33	2377	80 7 41	2395	81 51 23	2412	83 34 40	2430
	Aldebaran	W.	48 3 2	2385	49 46 58	2400	51 30 33	2415	53 13 46	2430
	Regulus	E.	33 22 5	2353	31 37 22	2375	29 53 11	2399	28 9 35	2423
	SATURN	E.	75 38 58	2331	73 53 43	2349	72 8 55	2367	70 24 33	2386
	Spica	E.	87 17 34	2315	85 31 57	2333	83 46 46	2352	82 2 2	2371
7	Aldebaran	W.	61 44 14	2514	63 25 8	2531	65 5 38	2549	66 45 43	2566
	SATURN	E.	61 49 29	2482	60 7 50	2500	58 26 37	2520	56 45 51	2538
	Spica	E.	73 25 10	2466	71 43 9	2486	70 1 36	2504	68 20 29	2524
8	Aldebaran	W.	75 0 2	2656	76 37 41	2674	78 14 56	2691	79 51 48	2709
	Pollux	W.	30 48 35	2616	32 27 8	2634	34 5 17	2652	35 43 2	2669
	SATURN	E.	48 28 34	2632	46 50 23	2652	45 12 38	2669	43 35 17	2688
	Spica	E.	60 1 35	2620	58 23 7	2638	56 45 4	2657	55 7 26	2675
	VENUS	E.	80 9 49	3037	78 40 22	3058	77 11 21	3078	75 42 45	3098
	SUN	E.	114 39 43	2966	113 8 48	2985	111 38 17	3005	110 8 11	3026
9	Aldebaran	W.	87 50 21	2793	89 24 58	2810	90 59 13	2826	92 33 7	2842
	Pollux	W.	43 46 0	2753	45 21 29	2769	46 56 37	2785	48 31 25	2801
	SATURN	E.	35 34 27	2773	33 59 24	2790	32 24 43	2805	30 50 22	2821
	Spica	E.	47 5 20	2764	45 30 5	2781	43 55 12	2798	42 20 41	2815
	VENUS	E.	68 25 41	3194	66 59 25	3212	65 33 30	3231	64 7 57	3247
	SUN	E.	102 43 37	3119	101 15 50	3136	99 48 24	3153	98 21 19	3170

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	Pollux	W.	50° 5' 52"	2815	51° 40' 0"	2831	53° 13' 48"	2845	54° 47' 18"	2859
	Spica	E.	40 46 32	2831	39 12 44	2847	37 39 17	2862	36 6 10	2879
	VENUS	E.	62 42 44	3263	61 17 52	3269	59 53 19	3298	58 29 5	3314
	SUN	E.	96 54 34	3187	95 28 9	3203	94 2 3	3219	92 36 16	3235
11	Pollux	W.	62 30 27	2923	64 2 17	2934	65 33 53	2946	67 5 14	2956
	Regulus	W.	26 16 16	2981	27 46 52	2988	29 17 20	2994	30 47 40	3001
	VENUS	E.	51 32 24	3387	50 9 53	3401	48 47 38	3414	47 25 37	3427
	SUN	E.	85 31 46	3306	84 7 41	3318	82 43 50	3330	81 20 13	3342
12	Pollux	W.	74 38 51	3003	76 9 1	3011	77 39 0	3018	79 8 50	3026
	Regulus	W.	38 17 20	3033	39 46 52	3039	41 16 17	3045	42 45 34	3050
	SUN	E.	74 25 24	3394	73 3 1	3403	71 40 48	3412	70 18 45	3420
13	Pollux	W.	86 35 59	3054	88 5 5	3059	89 34 5	3063	91 3 0	3067
	Regulus	W.	50 10 26	3073	51 39 8	3077	53 7 46	3081	54 36 19	3083
	SUN	E.	63 30 36	3454	62 9 20	3458	60 48 9	3463	59 27 4	3468
14	Regulus	W.	61 58 20	3093	63 26 38	3094	64 54 55	3095	66 23 11	3096
	SATURN	W.	18 49 54	3101	20 18 3	3102	21 46 10	3103	23 14 16	3103
	SUN	E.	52 42 45	3484	51 22 3	3487	50 1 24	3488	48 40 47	3489
15	Regulus	W.	73 44 35	3091	75 12 55	3090	76 41 17	3088	78 9 41	3086
	SATURN	W.	30 34 47	3101	32 2 56	3100	33 31 6	3097	34 59 19	3096
	Spica	W.	19 47 48	3140	21 15 9	3130	22 42 42	3122	24 10 25	3115
	SUN	E.	41 57 59	3493	40 37 27	3493	39 16 55	3492	37 56 22	3492
16	Regulus	W.	85 32 28	3071	87 1 13	3068	88 30 2	3064	89 58 56	3060
	SATURN	W.	42 21 7	3081	43 49 40	3078	45 18 17	3073	46 46 59	3070
	Spica	W.	31 30 57	3085	32 59 25	3079	34 28 0	3074	35 56 41	3069
	SUN	E.	31 13 30	3489	29 52 54	3488	28 32 17	3489	27 11 41	3469
17	SATURN	W.	54 11 47	3048	55 41 3	3041	57 10 25	3035	58 39 54	3030
	Spica	W.	43 21 50	3040	44 51 13	3034	46 20 43	3028	47 50 21	3022
	SUN	E.	20 29 0	3504	19 8 40	3513	17 48 30	3524	16 28 32	3540
20	SUN	W.	13 51 22	3418	15 13 18	3380	16 35 57	3349	17 59 12	3325
	Fomalhaut	E.	51 18 53	3188	49 52 29	3194	48 26 13	3204	47 0 8	3214
	α Pegasi	E.	72 39 51	3271	71 15 6	3270	69 50 20	3271	68 25 35	3273
	MARS	E.	72 58 10	3110	71 30 13	3102	70 2 6	3095	68 33 50	3087
	JUPITER	E.	92 51 32	2885	91 18 54	2877	89 46 6	2870	88 13 9	2862
21	SUN	W.	25 1 36	3235	26 27 4	3221	27 52 48	3208	29 18 48	3195
	MARS	E.	61 10 5	3047	59 40 50	3039	58 11 26	3031	56 41 52	3023
	α Pegasi	E.	61 22 37	3294	59 58 19	3293	58 34 10	3311	57 10 11	3322
	JUPITER	E.	80 25 58	2825	78 52 3	2817	77 17 57	2809	75 43 41	2801
22	SUN	W.	36 32 24	3138	37 59 48	3126	39 27 26	3115	40 55 17	3105
	MARS	E.	49 11 29	2981	47 40 53	2973	46 10 7	2965	44 39 10	2957
	α Pegasi	E.	50 14 6	3406	48 51 56	3430	47 30 13	3458	46 9 2	3489
	JUPITER	E.	67 49 47	2761	66 14 28	2753	64 38 58	2744	63 3 17	2736
	α Arietis	E.	89 39 39	2811	88 5 26	2803	86 31 2	2795	84 56 27	2786

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	Pollux	W.	56° 20' 29"	2873	57° 53' 23"	2885	59° 26' 1'	2898	60° 58' 22"	2911
	Spica	E.	34 33 24	2894	33 0 58	2909	31 28 51	2925	29 57 4	2939
	VENUS	E.	57 5 10	3330	55 41 33	3345	54 18 13	3359	52 55 10	3374
	SUN	E.	91 10 48	3949	89 45 37	3965	88 20 44	3978	86 56 7	3992
11	Pollux	W.	68 36 22	2966	70 7 17	2976	71 38 0	2985	73 8 31	2994
	Regulus	W.	32 17 52	3007	33 47 56	3014	35 17 52	3020	36 47 40	3026
	VENUS	E.	46 3 51	3438	44 42 18	3450	43 20 58	3462	41 59 51	3473
	SUN	E.	79 56 50	3353	78 33 40	3365	77 10 43	3375	75 47 58	3385
12	Pollux	W.	80 38 31	3039	82 8 4	3039	83 37 29	3044	85 6 47	3049
	Regulus	W.	44 14 45	3056	45 43 49	3060	47 12 47	3065	48 41 39	3069
	SUN	E.	68 56 51	3427	67 35 5	3435	66 13 28	3441	64 51 58	3448
13	Pollux	W.	92 31 50	3070	94 0 36	3073	95 29 19	3075	96 57 59	3078
	Regulus	W.	56 4 49	3067	57 33 15	3068	59 1 39	3091	60 30 0	3091
	SUN	E.	58 6 4	3471	56 45 8	3476	55 24 17	3479	54 3 29	3482
14	Regulus	W.	67 51 27	3095	69 19 43	3095	70 47 59	3094	72 16 16	3092
	SATURN	W.	24 42 22	3104	26 10 27	3103	27 38 33	3102	29 6 40	3102
	SUN	E.	47 20 11	3491	45 59 37	3492	44 39 4	3492	43 18 31	3493
15	Regulus	W.	79 38 8	3083	81 6 38	3081	82 35 11	3078	84 3 48	3075
	SATURN	W.	36 27 34	3093	37 55 52	3090	39 24 14	3087	40 52 39	3085
	Spica	W.	25 38 16	3109	27 6 15	3102	28 34 22	3096	30 2 36	3091
	SUN	E.	36 35 49	3491	35 15 15	3491	33 54 41	3490	32 34 6	3489
16	Regulus	W.	91 27 54	3056	92 56 57	3052	94 26 6	3047	95 55 20	3042
	SATURN	W.	48 15 45	3065	49 44 37	3061	51 13 34	3056	52 42 37	3051
	Spica	W.	37 25 29	3063	38 54 24	3057	40 23 26	3052	41 52 34	3046
	SUN	E.	25 51 5	3490	24 30 30	3492	23 9 57	3494	21 49 26	3496
17	SATURN	W.	60 9 29	3095	61 39 11	3018	63 9 1	3013	64 38 58	3007
	Spica	W.	49 20 6	3016	50 49 59	3009	52 20 0	3003	53 50 9	2997
	SUN	E.	15 8 52	3561	13 49 35	3593	12 30 53	3639	11 13 1	3704
20	SUN	W.	19 22 55	3302	20 47 4	3283	22 11 35	3266	23 36 26	3250
	Fomalhaut	E.	45 34 15	3226	44 8 37	3242	42 43 17	3259	41 18 17	3279
	α Pegasi	E.	67 0 52	3276	65 36 12	3278	64 11 35	3282	62 47 3	3288
	MARS	E.	67 5 24	3079	65 36 49	3071	64 8 4	3063	62 39 9	3056
	JUPITER	E.	86 40 2	2855	85 6 46	2848	83 33 20	2840	81 59 44	2832
21	SUN	W.	30 45 3	3183	32 11 32	3171	33 38 16	3160	35 5 13	3148
	MARS	E.	55 12 8	3015	53 42 14	3006	52 12 9	2998	50 41 54	2990
	α Pegasi	E.	55 46 25	3334	54 22 53	3349	52 59 38	3365	51 36 41	3384
	JUPITER	E.	74 9 15	2794	72 34 39	2785	70 59 52	2778	69 24 55	2769
22	SUN	W.	42 23 20	3095	43 51 36	3083	45 20 6	3073	46 48 49	3062
	MARS	E.	43 8 3	2948	41 36 45	2939	40 5 16	2931	38 33 36	2922
	α Pegasi	E.	44 48 26	3525	43 28 30	3567	42 9 20	3614	40 51 1	3666
	JUPITER	E.	61 27 25	2727	59 51 21	2719	58 15 6	2710	56 38 39	2701
	α Arietis	E.	83 21 41	2778	81 46 44	2770	80 11 37	2761	78 36 18	2753

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LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	SUN	W.	48 17 45	3052	49 46 54	3041	51 16 16	3030	52 45 52	3019
	MARS	E.	37 1 45	2914	35 29 44	2905	33 57 32	2897	32 25 9	2886
	JUPITER	E.	55 2 1	2692	53 25 11	2683	51 48 8	2674	50 10 53	2664
	α Arietis	E.	77 0 49	2745	75 25 9	2737	73 49 18	2729	72 13 17	2721
24	SUN	W.	60 17 13	2965	61 48 10	2953	63 19 22	2942	64 50 48	2930
	α Aquilæ	W.	46 25 52	4572	47 28 41	4458	48 33 10	4353	49 39 14	4254
	JUPITER	E.	42 1 27	2616	40 22 54	2607	38 44 8	2596	37 5 8	2587
	α Arietis	E.	64 10 30	2681	62 33 25	2674	60 56 10	2666	59 18 45	2659
	Aldebaran	E.	94 25 37	2643	92 47 41	2634	91 9 32	2624	89 31 9	2613
25	SUN	W.	72 31 38	2672	74 4 33	2660	75 37 43	2648	77 11 8	2636
	α Aquilæ	W.	55 30 33	3664	56 44 29	3602	57 59 29	3743	59 15 31	3689
	α Arietis	E.	51 9 20	2627	49 31 2	2622	47 52 37	2618	46 14 6	2613
	Aldebaran	E.	81 15 43	2561	79 35 55	2551	77 55 53	2541	76 15 37	2530
26	SUN	W.	85 2 11	2775	86 37 11	2763	88 12 28	2750	89 48 1	2738
	α Aquilæ	W.	65 49 7	3463	67 10 13	3494	68 32 2	3389	69 54 31	3356
	α Arietis	E.	38 0 36	2610	36 21 55	2614	34 43 19	2601	33 4 52	2631
	Aldebaran	E.	67 50 38	2480	66 8 56	2469	64 26 59	2459	62 44 48	2450
27	SUN	W.	97 49 52	2677	99 27 3	2665	101 4 30	2653	102 42 13	2641
	α Aquilæ	W.	76 55 46	3218	78 21 34	3196	79 47 48	3175	81 14 27	3155
	Fomalhaut	W.	44 58 30	2708	46 34 59	2675	48 12 12	2646	49 50 5	2618
	Aldebaran	E.	54 10 35	2405	52 27 7	2396	50 43 27	2389	48 59 37	2382
	Pollux	E.	97 48 8	2337	96 3 2	2326	94 17 40	2315	92 32 2	2303
28	SUN	W.	110 54 45	2585	112 34 1	2574	114 13 32	2564	115 53 17	2553
	Fomalhaut	W.	58 8 20	2501	59 49 32	2469	61 31 11	2463	63 13 16	2446
	α Pegasi	W.	40 48 34	3164	42 15 26	3093	43 43 44	3029	45 13 21	2969
	MARS	W.	27 51 25	2472	29 33 18	2459	31 15 29	2447	32 57 57	2435
	Pollux	E.	83 39 47	2349	81 52 33	2339	80 5 3	2329	78 17 18	2318
29	Fomalhaut	W.	71 49 19	2374	73 33 31	2362	75 18 1	2351	77 2 46	2341
	α Pegasi	W.	52 57 56	2747	54 33 34	2713	56 9 56	2683	57 46 59	2654
	MARS	W.	41 34 20	2382	43 18 21	2373	45 2 35	2364	46 47 2	2356
	JUPITER	W.	26 58 22	2192	28 47 2	2184	30 35 53	2176	32 24 56	2169
	Pollux	E.	69 15 1	2174	67 25 54	2166	65 36 35	2159	63 47 5	2151
30	α Pegasi	W.	66 0 49	2546	67 40 58	2530	69 21 30	2515	71 2 22	2503
	MARS	W.	55 31 59	2322	57 17 26	2317	59 3 1	2312	60 48 43	2306
	JUPITER	W.	41 32 45	2139	43 22 45	2134	45 12 52	2130	47 3 5	2127
	α Arietis	W.	22 23 23	2574	24 2 54	2511	25 43 52	2458	27 26 4	2413
	Pollux	E.	54 36 58	2190	52 46 30	2116	50 55 56	2113	49 5 16	2109
	Regulus	E.	91 10 0	2130	89 19 46	2125	87 29 25	2120	85 38 57	2117
31	α Pegasi	W.	79 30 22	2462	81 12 29	2458	82 54 41	2455	84 36 57	2455
	MARS	W.	69 38 24	2297	71 24 28	2296	73 10 33	2296	74 56 38	2296
	JUPITER	W.	56 15 15	2117	58 5 48	2116	59 56 22	2117	61 46 55	2118
	α Arietis	W.	36 10 0	2279	37 56 30	2265	39 43 21	2252	41 30 31	2242
	Pollux	E.	39 50 52	2100	37 59 53	2101	36 8 55	2101	34 17 58	2103
	Regulus	E.	76 25 34	2107	74 34 46	2108	72 43 59	2109	70 53 13	2109

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	SUN	W.	54° 15' 41"	3008	55° 45' 44"	2997	57° 16' 0"	2998	58° 46' 30"	2976
	MARS	E.	30 52 35	2980	29 19 51	2972	27 46 56	2964	26 13 51	2957
	JUPITER	E.	48 33 25	2955	46 55 45	2946	45 17 52	2936	43 39 46	2926
	α Arietis	E.	70 37 5	2713	69 0 42	2705	67 24 9	2697	65 47 25	2689
24	SUN	W.	66 22 29	2919	67 54 24	2907	69 26 34	2895	70 58 59	2884
	α Aquilæ	W.	50 46 49	4164	51 55 49	4081	53 6 9	4004	54 17 45	3931
	JUPITER	E.	35 25 55	2577	33 46 28	2566	32 6 46	2556	30 26 50	2545
	α Arietis	E.	57 41 10	2959	56 3 26	2945	54 25 32	2939	52 47 30	2933
	Aldebaran	E.	87 52 32	2903	86 13 41	2593	84 34 36	2583	82 55 17	2573
25	SUN	W.	78 44 49	2994	80 18 46	2912	81 52 58	2799	83 27 27	2788
	α Aquilæ	W.	60 32 30	2637	61 50 24	2589	63 9 10	2545	64 28 45	2509
	α Arietis	E.	44 35 29	2910	42 56 48	2909	41 18 5	2907	39 39 20	2908
	Aldebaran	E.	74 35 6	2520	72 54 21	2510	71 13 21	2499	69 32 7	2489
26	SUN	W.	91 23 51	2725	92 59 57	2713	94 36 19	2701	96 12 57	2689
	α Aquilæ	W.	71 17 38	3325	72 41 21	3295	74 5 38	3268	75 30 27	3249
	α Arietis	E.	31 26 39	2944	29 48 44	2992	28 11 13	2986	26 34 14	2716
	Aldebaran	E.	61 2 24	2440	59 19 46	2431	57 36 55	2422	55 53 51	2413
27	SUN	W.	104 20 12	2629	105 58 27	2618	107 36 58	2607	109 15 44	2596
	α Aquilæ	W.	82 41 30	3138	84 8 54	3121	85 36 38	3106	87 4 40	3093
	Fomalhaut	W.	51 28 36	2591	53 7 43	2566	54 47 24	2543	56 27 37	2522
	Aldebaran	E.	47 15 36	2375	45 31 26	2370	43 47 8	2365	42 2 43	2362
	Pollux	E.	90 46 7	2292	88 59 56	2281	87 13 29	2270	85 26 46	2260
28	SUN	W.	117 33 16	2544	119 13 28	2534	120 53 54	2525	122 34 32	2516
	Fomalhaut	W.	64 55 45	2430	66 38 37	2415	68 21 51	2401	70 5 25	2387
	α Pegasi	W.	46 44 12	2916	48 16 10	2868	49 49 10	2824	51 23 7	2784
	MARS	W.	34 40 42	2423	36 23 44	2412	38 7 1	2402	39 50 33	2391
	Pollux	E.	76 29 18	2209	74 41 4	2200	72 52 36	2191	71 3 55	2189
29	Fomalhaut	W.	78 47 46	2339	80 32 59	2323	82 18 25	2315	84 4 2	2308
	α Pegasi	W.	59 24 41	2929	61 2 57	2904	62 41 46	2583	64 21 4	2564
	MARS	W.	48 31 40	2348	50 16 30	2341	52 1 30	2334	53 46 40	2328
	JUPITER	W.	34 14 10	2169	36 3 35	2156	37 53 9	2149	39 42 53	2144
	Pollux	E.	61 57 23	2144	60 7 31	2137	58 17 29	2132	56 27 18	2126
30	α Pegasi	W.	72 43 31	2492	74 24 56	2482	76 6 34	2475	77 48 23	2467
	MARS	W.	62 34 31	2304	64 20 24	2302	66 6 21	2300	67 52 21	2298
	JUPITER	W.	48 53 23	2124	50 43 46	2121	52 34 13	2119	54 24 43	2118
	α Arietis	W.	29 9 20	2375	30 53 30	2345	32 38 24	2319	34 23 56	2297
	Pollux	E.	47 14 30	2106	45 23 40	2103	43 32 46	2102	41 41 50	2101
	Regulus	E.	83 48 24	2114	81 57 46	2112	80 7 5	2110	78 16 21	2106
31	α Pegasi	W.	86 19 14	2455	88 1 31	2455	89 43 47	2458	91 25 59	2462
	MARS	W.	76 42 41	2299	78 28 42	2301	80 14 40	2304	82 0 34	2308
	JUPITER	W.	63 37 26	2120	65 27 55	2122	67 18 20	2125	69 8 41	2129
	α Arietis	W.	43 17 56	2234	45 5 33	2227	46 53 20	2223	48 41 14	2220
	Pollux	E.	32 27 3	2105	30 36 12	2108	28 45 25	2112	26 54 44	2117
	Regulus	E.	69 2 28	2111	67 11 46	2114	65 21 8	2117	63 30 35	2120

GREENWICH MEAN TIME.											
JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	18 9 54.20	-12.019	-20 19 25.7	+12.08	23 19.2	1	19 29 31.71	+14.983	-22 25 33.5	+12.08	22 46.8
2	18 5 23.38	10.514	20 15 15.6	8.15	23 11.4	2	19 35 33.25	15.143	22 19 47.8	15.94	22 49.0
3	18 1 30.93	8.835	20 12 55.2	+ 3.54	23 4.3	3	19 41 38.47	15.389	22 12 48.2	19.04	22 51.2
4	17 58 20.08	7.061	20 12 24.7	- 0.96	22 57.9	4	19 47 47.08	15.494	22 4 33.6	22.18	22 53.4
5	17 55 52.22	5.992	20 13 39.8	5.25	22 52.2	5	19 53 58.77	15.548	21 55 3.1	25.36	22 55.7
6	17 54 7.32	- 3.469	-20 16 34.2	- 9.21	22 47.2	6	20 0 13.32	+15.692	-21 44 15.9	+28.58	22 58.1
7	17 53 4.24	1.792	20 20 58.3	12.72	22 42.9	7	20 6 30.49	15.767	21 32 11.1	31.82	23 0.5
8	17 52 41.07	- 0.166	20 26 40.8	15.74	22 39.1	8	20 12 50.09	15.865	21 18 48.3	35.00	23 2.9
9	17 52 55.44	+ 1.344	20 33 30.0	18.26	22 36.0	9	20 19 11.95	15.955	21 4 6.7	38.26	23 5.4
10	17 53 44.68	2.739	20 41 13.3	20.26	22 33.4	10	20 25 35.89	16.039	20 48 5.8	41.70	23 7.9
11	17 55 6.02	+ 4.021	-20 49 38.6	-21.76	22 31.3	11	20 32 1.76	+16.116	-20 30 45.1	+45.03	23 10.4
12	17 56 56.78	5.191	20 58 34.1	22.78	22 29.6	12	20 38 29.41	16.188	20 12 4.1	48.20	23 12.9
13	17 59 14.32	6.254	21 7 48.3	23.34	22 28.3	13	20 44 58.76	16.266	19 52 2.4	51.76	23 15.5
14	18 1 56.20	7.290	21 17 11.1	23.49	22 27.4	14	20 51 20.69	16.321	19 30 39.7	55.14	23 18.1
15	18 5 0.13	8.093	21 26 32.7	23.25	22 26.8	15	20 58 2.12	16.382	19 7 55.7	58.53	23 20.7
16	18 8 24.00	+ 8.884	-21 35 44.4	-22.67	22 26.6	16	21 4 35.98	+16.440	-18 43 50.0	+61.94	23 23.4
17	18 12 5.94	9.599	21 44 38.2	21.77	22 26.6	17	21 11 11.20	16.495	18 18 22.4	65.26	23 26.0
18	18 16 4.19	10.945	21 53 7.2	20.60	22 26.8	18	21 17 47.72	16.548	17 51 32.7	68.79	23 28.7
19	18 20 17.22	10.830	22 1 5.1	19.18	22 27.3	19	21 24 25.50	16.600	17 23 20.7	72.22	23 31.5
20	18 24 43.61	11.360	22 8 26.1	17.53	22 28.0	20	21 31 4.54	16.652	16 53 46.3	75.65	23 34.2
21	18 29 22.13	+11.842	-22 15 5.0	-15.68	22 28.9	21	21 37 44.81	+16.703	-16 22 49.4	+79.00	23 36.9
22	18 34 11.65	12.278	22 20 57.5	13.66	22 30.0	22	21 44 26.28	16.753	15 50 29.9	82.52	23 39.7
23	18 39 11.14	12.674	22 25 59.7	11.49	22 31.2	23	21 51 8.94	16.803	15 16 48.2	85.96	23 42.5
24	18 44 19.72	13.034	22 30 7.9	9.18	22 32.5	24	21 57 52.83	16.854	14 41 44.0	89.38	23 45.3
25	18 49 36.53	13.369	22 33 18.9	6.73	22 33.9	25	22 4 37.94	16.906	14 5 17.7	92.81	23 48.1
26	18 55 0.85	+13.661	-22 35 30.0	- 4.18	22 35.5	26	22 11 24.32				

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m	
1	22 38 42.60	+17.176	-10 42 47.1	+109.58		1	1 51 48.37	+8.015	+14 23 44.2	+64.27	1 10.6
2	22 45 35.50	17.232	9 58 18.1	112.82	0 2.7	2	1 54 49.03	7.033	14 47 47.1	55.94	1 9.6
3	22 52 29.75	17.288	9 12 32.0	116.01	0 5.6	3	1 57 25.83	6.099	15 8 27.6	47.41	1 8.2
4	22 59 25.34	17.344	8 25 30.3	119.11	0 8.6	4	1 59 38.32	5.010	15 25 41.4	38.79	1 6.5
5	23 6 22.23	17.398	7 37 15.4	122.12	0 11.6	5	2 1 26.22	3.980	15 39 24.9	29.90	1 4.3
6	23 13 20.39	+17.448	- 6 47 49.4	+125.02	0 14.6	6	2 2 49.38	+2.951	+15 49 35.7	+20.99	1 1.8
7	23 20 19.70	17.494	5 57 15.2	127.80	0 17.7	7	2 3 47.94	1.931	15 56 12.0	12.02	0 58.8
8	23 27 20.05	17.534	5 5 36.3	130.41	0 20.8	8	2 4 22.22	+0.989	15 59 12.7	+ 3.05	0 55.4
9	23 34 21.28	17.566	4 12 57.2	132.82	0 23.9	9	2 4 32.75	-0.045	15 58 38.7	- 5.88	0 51.6
10	23 41 23.15	17.587	3 19 22.6	135.02	0 27.0	10	2 4 20.38	0.978	15 54 31.6	14.68	0 47.5
11	23 48 25.33	+17.593	- 2 24 58.3	+136.96	0 30.0	11	2 3 46.24	-1.857	+15 46 55.4	-23.28	0 43.0
12	23 55 27.45	17.581	1 29 51.0	138.59	0 33.1	12	2 2 51.74	2.673	15 35 56.2	31.60	0 38.1
13	0 2 29.05	17.548	- 0 34 8.5	139.88	0 36.2	13	2 1 38.55	3.412	15 21 42.0	39.50	0 33.0
14	0 9 29.52	17.487	+ 0 22 0.2	140.78	0 39.3	14	2 0 8.68	4.063	15 4 24.1	46.90	0 27.6
15	0 16 28.19	17.396	1 18 25.2	141.24	0 42.3	15	1 58 24.32	4.616	14 44 15.8	53.67	0 21.9
16	0 23 24.24	+17.269	+ 2 14 55.3	+141.90	0 45.3	16	1 56 27.95	-5.063	+14 21 33.8	-59.69	0 16.0
17	0 30 16.76	17.101	3 11 18.5	140.64	0 48.3	17	1 54 22.21	5.396	13 56 37.4	64.85	0 10.0
18	0 37 4.70	16.886	4 7 21.5	139.50	0 51.2	18	1 52 9.85	5.614	13 29 48.5	69.08	0 3.9
19	0 43 46.89	16.621	5 2 49.9	137.76	0 53.9	19	1 49 53.65	5.716	13 1 30.2	72.28	23 51.5
20	0 50 22.07	16.301	5 57 29.2	135.41	0 56.5	20	1 47 36.41	5.702	12 32 7.8	74.41	23 45.3
21	0 56 48.89	+15.924	+ 6 51 4.2	+132.41	0 59.1	21	1 45 20.85	-5.577	+12 2 7.5	-75.43	23 39.2
22	1 3 5.94	15.487	7 43 19.8	128.78	1 1.4	22	1 43 9.54	5.348	11 31 55.5	75.38	23 33.2
23	1 9 11.76	14.988	8 34 0.7	124.52	1 3.5	23	1 41 4.89	5.094	11 1 57.3	74.29	23 27.3
24	1 15 4.87	14.428	9 22 52.1	119.67	1 5.5	24	1 39 9.05	4.616	10 32 37.4	72.22	23 21.7
25	1 20 43.80	13.807	10 9 40.2	114.25	1 7.2	25	1 37 23.90	4.135	10 4 18.1	69.25	23 16.2
26	1 26 7.12	+13.128	+10 54 12.0	+108.31	1 8.6	26	1 35 51.09	- 3.591	+ 9 37 20.1	-65.48	23 11.0
27	1 31 13.48	12.393	11 36 15.3	101.89	1 9.8	27	1 34 31.95	2.997	9 12 1.4	61.01	23 6.0
28	1 36 1.55	11.605	12 15 39.4	95.05	1 10.6	28	1 33 27.54	2.365	8 48 37.1	55.96	23 1.2
29	1 40 30.14	10.769	12 52 14.3	87.84	1 11.1	29	1 32 38.66	1.704	8 27 19.9	50.44	22 56.7
30	1 44 38.12	9.899	13 25 51.8	80.25	1 11.3	30	1 32 5.88	1.025	8 8 19.5	44.57	22 52.5
31	1 48 24.50	+ 8.969	+13 56 23.9	+ 72.38	1 11.1	31	1 31 49.56	-0.337	+ 7 51 43.3	-38.44	22 48.6
32	1 51 48.37	+ 8.015	+14 23 44.2	+ 64.27	1 10.6	32	1 31 49.77	+0.354	+ 7 37 36.3	-32.14	22 44.9

Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .	2.4	2.5	2.5	2.7	2.9	3.3	3.8	Semidiameter . .	4.4	5.0	5.5	5.9	5.8	5.6
Hor. Parallax . .	6.4	6.5	6.7	7.1	7.7	8.7	9.9	Hor. Parallax . .	11.5	13.2	14.7	15.5	15.5	14.7

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.												
MAY.						JUNE.						
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.		
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	1 31 49.56	- 0.337	+ 7 51 43.3	-38.44	22 48.6	1	3 18 20.90	+16.903	+16 2 38.9	+85.99	22 39.1	
2	1 31 49.77	+ 0.354	7 37 36.3	32.14	22 44.9	2	3 24 55.83	16.709	16 36 51.3	85.70	22 42.0	
3	1 32 6.57	1.047	7 26 1.8	25.76	22 41.5	3	3 31 43.00	17.294	17 11 10.0	85.80	22 45.0	
4	1 32 39.98	1.736	7 17 0.7	19.36	22 38.4	4	3 38 42.65	17.748	17 45 26.9	85.56	22 48.3	
5	1 33 29.79	2.411	7 10 32.8	13.00	22 35.5	5	3 45 54.93	18.279	18 19 33.9	84.96	22 51.7	
6	1 34 35.56	+ 3.069	+ 7 6 36.5	- 6.72	22 32.9	6	3 53 20.02	+18.813	+18 53 21.8	+83.98	22 55.4	
7	1 35 56.88	3.709	7 5 9.3	- 0.58	22 30.6	7	4 0 57.98	19.350	19 26 41.5	82.50	22 59.3	
8	1 37 33.41	4.333	7 6 8.0	+ 5.43	22 28.5	8	4 8 48.81	19.886	19 59 22.5	80.76	23 3.5	
9	1 39 24.74	4.941	7 9 28.8	11.26	22 26.6	9	4 16 52.47	20.417	20 31 14.2	78.47	23 7.8	
10	1 41 30.44	5.531	7 15 6.9	16.88	22 25.0	10	4 25 8.73	20.936	21 2 5.2	75.70	23 12.3	
11	1 43 50.08	+ 6.103	+ 7 22 57.1	+22.26	22 23.6	11	4 33 37.29	+21.440	+21 31 43.8	+72.44	23 17.1	
12	1 46 23.24	6.658	7 32 54.4	27.47	22 22.4	12	4 42 17.66	21.990	21 59 57.9	68.66	23 22.0	
13	1 49 9.51	7.196	7 44 53.8	32.44	22 21.5	13	4 51 9.20	22.370	22 26 35.2	64.36	23 27.1	
14	1 52 8.51	7.719	7 58 49.9	37.19	22 20.7	14	5 0 11.09	22.781	22 51 23.4	59.57	23 32.4	
15	1 55 19.91	8.228	8 14 37.2	41.72	22 20.1	15	5 9 22.34	23.148	23 14 10.7	54.30	23 37.8	
16	1 58 43.37	+ 8.725	+ 8 32 10.6	+46.05	22 19.7	16	5 18 41.78	+23.462	+23 34 46.2	+48.58	23 43.3	
17	2 2 18.60	9.210	8 51 24.8	50.11	22 19.5	17	5 28 8.07	23.718	23 52 59.6	42.47	23 48.9	
18	2 6 5.36	9.685	9 12 14.2	53.98	22 19.6	18	5 37 39.74	23.910	24 8 41.9	36.01	23 54.6	
19	2 10 3.44	10.153	9 34 33.9	57.63	22 19.8	19	5 47 15.21	24.035	24 21 45.7	29.27		
20	2 14 12.67	10.615	9 58 18.7	61.07	22 20.2	20	5 56 52.88	24.092	24 32 5.3	22.34	0 0.3	
21	2 18 32.92	+11.072	+10 23 23.4	+64.29	22 20.7	21	6 6 31.07	+24.079	+24 39 36.9	+15.98	0 6.0	
22	2 23 4.07	11.525	10 49 42.9	67.30	22 21.5	22	6 16 8.14	23.999	24 44 18.5	8.18	0 11.7	
23	2 27 46.09	11.977	11 17 12.3	70.11	22 22.4	23	6 25 42.52	23.855	24 46 10.0	+ 1.12	0 17.3	
24	2 32 38.95	12.428	11 45 46.5	72.70	22 23.5	24	6 35 12.73	23.652	24 45 13.2	- 5.84	0 22.9	
25	2 37 42.64	12.881	12 15 20.3	75.08	22 24.8	25	6 44 37.41	23.395	24 41 31.1	12.63	0 28.4	
26	2 42 57.24	+13.337	+12 45 48.6	+77.25	22 26.3	26	6 53 55.31	+23.090	+24 35 8.7	-19.20	0 33.8	
27	2 48 22.85	13.798	13 17 6.3	79.19	22 27.9	27	7 3 5.40	22.744	24 26 11.3	25.52	0 39.0	
28	2 53 59.58	14.264	13 49 7.9	80.91	22 29.8	28	7 12 6.72	22.362	24 14 45.9	31.54	0 44.1	
29	2 59 47.56	14.736	14 21 47.9	82.30	22 31.8	29	7 20 58.52	21.951	24 0 59.8	37.25	0 49.0	
30	3 5 46.97	15.216	14 55 0.5	83.62	22 34.0	30	7 29 40.16	21.516	23 45 0.5	42.62	0 53.8	
31	3 11 58.01	+15.705	+15 28 39.7	+84.80	22 36.5	31	7 38 11.16	+21.064	+23 26 56.6	-47.65	0 58.4	
32	3 18 20.90	+16.203	+16 2 38.9	+85.29	22 39.1	32	7 46 31.13	+20.599	+23 6 56.1	-52.34	1 2.8	
Day of the Month.						Day of the Month.						
5th. 10th. 15th. 20th. 25th. 30th.						4th. 9th. 14th. 19th. 24th. 29th.						
Semidiameter . . 6.1 4.7 4.2 3.8 3.5 3.2						Semidiameter . . 2.9 2.7 2.6 2.5 2.5 2.6						
Hor. Parallax . . 13.6 12.4 11.2 10.1 9.2 8.4						Hor. Parallax . . 7.7 7.2 6.9 6.7 6.7 6.9						
NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.												

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m		
1	7 38 11.16	+21.064	+23 26 56.6	-47.65	0 58.4	1	10 30 30.39	+6.680	+7 20 22.2	-71.33	1 48.2		
2	7 46 31.13	20.599	23 6 56.1	52.34	1 2.8	2	10 33 4.04	6.194	6 52 24.5	68.43	1 46.8		
3	7 54 39.83	20.125	22 45 7.2	56.68	1 7.0	3	10 35 24.14	5.547	6 25 39.8	65.24	1 45.2		
4	8 2 37.07	19.645	22 21 38.1	60.69	1 11.0	4	10 37 30.11	4.948	6 0 15.3	61.75	1 43.3		
5	8 10 22.76	19.162	21 56 36.8	64.37	1 14.8	5	10 39 21.44	4.325	5 36 18.5	57.93	1 41.2		
6	8 17 56.83	+18.678	+21 30 11.0	-67.73	1 18.4	6	10 40 57.50	+3.677	+5 13 57.4	-53.77	1 38.9		
7	8 25 19.31	18.196	21 2 28.3	70.78	1 21.8	7	10 42 17.72	3.004	4 53 20.4	49.25	1 36.2		
8	8 32 30.27	17.718	20 33 35.8	73.54	1 25.1	8	10 43 21.47	2.305	4 34 36.3	44.36	1 33.3		
9	8 39 29.79	17.943	20 3 40.6	76.02	1 28.1	9	10 44 8.15	1.580	4 17 54.3	39.08	1 30.2		
10	8 46 17.97	16.773	19 32 49.2	78.23	1 31.0	10	10 44 37.14	0.832	4 3 23.8	33.40	1 26.7		
11	8 52 54.91	+16.308	+19 1 7.8	-80.18	1 33.7	11	10 44 47.89	+0.062	+3 51 14.2	-27.32	1 22.9		
12	8 59 20.78	15.849	18 28 42.8	81.87	1 36.1	12	10 44 39.94	-0.798	3 41 35.5	20.84	1 18.8		
13	9 5 35.69	15.394	17 55 39.9	83.33	1 38.4	13	10 44 12.86	1.531	3 34 36.8	13.98	1 14.4		
14	9 11 39.75	14.945	17 22 4.8	84.56	1 40.6	14	10 43 26.42	2.340	3 30 27.2	-6.75	1 9.7		
15	9 17 33.09	14.501	16 48 2.8	85.57	1 42.5	15	10 42 20.54	3.150	3 29 15.4	+0.81	1 4.7		
16	9 23 15.82	+14.060	+16 13 39.1	-86.37	1 44.2	16	10 40 55.34	-3.947	+3 31 8.2	+8.64	0 59.3		
17	9 28 48.01	13.623	15 38 58.7	86.96	1 45.8	17	10 39 11.30	4.719	3 36 11.4	16.65	0 53.7		
18	9 34 9.75	13.188	15 4 6.7	87.34	1 47.3	18	10 37 9.14	5.453	3 44 28.3	24.76	0 47.7		
19	9 39 21.07	12.756	14 29 7.8	87.53	1 48.5	19	10 34 50.00	6.132	3 55 59.7	32.85	0 41.5		
20	9 44 22.02	12.323	13 54 6.8	87.52	1 49.5	20	10 32 15.41	6.737	4 10 43.5	40.76	0 35.0		
21	9 49 12.56	+11.889	+13 19 8.5	-87.32	1 50.4	21	10 29 27.37	-7.249	+4 28 33.4	+48.33	0 28.2		
22	9 53 52.68	11.454	12 44 17.4	86.92	1 51.1	22	10 26 28.33	7.650	4 49 19.3	55.39	0 21.3		
23	9 58 22.33	11.016	12 9 38.2	86.32	1 51.7	23	10 23 21.20	7.920	5 12 46.4	61.74	0 14.3		
24	10 2 41.40	10.573	11 35 15.7	85.52	1 52.0	24	10 20 9.34	8.044	5 38 36.0	67.24	0 7.2		
25	10 6 49.78	10.124	11 1 14.8	84.52	1 52.2	25	10 16 56.36	8.009	6 6 25.4	71.67	0 0.1		
26	10 10 47.30	+9.688	+10 27 40.2	-83.32	1 52.2	26	10 13 46.28	-7.802	+6 35 46.8	+74.92	23 46.1		
27	10 14 33.76	9.202	9 54 37.2	81.90	1 52.0	27	10 10 43.24	7.422	7 6 11.2	76.88	23 39.3		
28	10 18 8.92	8.796	9 22 10.7	80.26	1 51.7	28	10 7 51.41	6.868	7 37 6.4	77.49	23 32.7		
29	10 21 32.49	8.327	8 50 26.2	78.40	1 51.1	29	10 5 14.89	6.147	8 7 59.6	76.71	23 26.5		
30	10 24 44.18	7.734	8 19 29.4	76.30	1 50.3	30	10 2 57.58	5.270	8 38 17.6	74.56	23 20.7		
31	10 27 43.61	+7.216	+7 49 26.0	-73.94	1 49.3	31	10 1 3.05	-4.252	+9 7 28.3	+71.12	23 15.3		
32	10 30 30.39	+6.680	+7 20 22.2	-71.33	1 48.2	32	9 59 34.44	-3.113	+9 35 1.6	+66.47	23 10.3		
Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.	Day of the Month.	3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter . .	2.7	2.9	3.1	3.3	3.5	3.8	Semidiameter . .	4.2	4.6	4.9	5.3	5.4	5.2
Hor. Parallax . .	7.2	7.6	8.1	8.6	9.3	10.1	Hor. Parallax . .	11.0	12.1	13.1	14.0	14.3	13.7

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	o ' "	"	h m		h m s	s	o ' "	"	h m				
1	9 59 34.44	- 3.113	+ 9 35 1.6	+66.47	23 10.3	1	12 15 32.23	+16.945	+ 0 5 49.4	+115.93	23 35.3				
2	9 58 34.42	1.875	10 0 29.9	60.71	23 5.9	2	12 22 0.95	16.148	- 0 40 35.3	116.09	23 37.8				
3	9 58 5.05	- 0.561	10 23 28.0	53.98	23 2.0	3	12 28 27.33	16.050	1 27 1.0	116.01	23 40.3				
4	9 58 7.92	+ 0.806	10 43 34.4	46.42	22 58.7	4	12 34 51.35	15.952	2 13 22.2	115.73	23 42.7				
5	9 58 43.99	2.203	11 0 30.6	38.15	22 55.9	5	12 41 13.05	15.856	2 59 34.4	115.26	23 45.1				
6	9 59 53.71	+ 3.606	+11 14 1.3	+29.32	22 53.6	6	12 47 32.48	+15.763	- 3 45 33.4	-114.63	23 47.4				
7	10 1 36.95	4.994	11 23 54.8	20.07	22 51.9	7	12 53 49.72	15.674	4 31 15.5	113.86	23 49.7				
8	10 3 53.13	6.347	11 30 2.2	10.51	22 50.8	8	13 0 4.88	15.590	5 16 37.6	112.96	23 52.0				
9	10 6 41.20	7.649	11 32 17.9	+ 0.78	22 50.1	9	13 6 18.08	15.512	6 1 36.5	111.94	23 54.3				
10	10 9 59.75	8.884	11 30 38.4	- 9.05	22 49.9	10	13 12 29.46	15.439	6 46 9.7	110.82	23 56.5				
11	10 13 47.00	+10.039	+11 25 4.2	-19.79	22 50.2	11	13 18 39.17	+15.372	- 7 30 14.8	-109.69	23 58.7				
12	10 18 0.92	11.105	11 15 37.8	28.38	22 50.9	12	13 24 47.35	15.311	8 13 49.6	108.29					
13	10 22 39.26	12.073	11 2 23.9	37.72	22 51.9	13	13 30 54.13	15.256	8 56 52.1	106.99	0 0.9				
14	10 27 39.62	12.939	10 45 30.3	46.69	22 53.3	14	13 36 59.68	15.208	9 39 20.4	105.44	0 3.0				
15	10 32 59.51	13.792	10 25 6.3	55.23	22 55.0	15	13 43 4.15	15.166	10 21 12.9	103.92	0 5.2				
16	10 38 36.48	+14.361	+10 1 23.3	-63.96	22 56.9	16	13 49 7.68	+15.130	-11 2 27.9	-102.33	0 7.3				
17	10 44 28.05	14.990	9 34 34.4	70.72	22 59.0	17	13 55 10.42	15.100	11 43 4.1	100.67	0 9.4				
18	10 50 31.87	15.385	9 4 53.4	77.59	23 1.3	18	14 1 12.51	15.075	12 22 59.7	98.96	0 11.5				
19	10 56 45.75	15.759	8 32 34.9	83.84	23 3.7	19	14 7 14.07	15.056	13 2 13.6	97.19	0 13.6				
20	11 3 7.65	16.053	7 57 54.4	89.43	23 6.2	20	14 13 15.22	15.042	13 40 44.6	95.37	0 15.6				
21	11 9 35.72	+16.375	+ 7 21 7.1	-94.40	23 8.8	21	14 19 16.09	+15.032	-14 18 31.1	- 93.49	0 17.7				
22	11 16 8.32	16.432	6 42 28.0	98.76	23 11.5	22	14 25 16.78	15.027	14 55 31.9	91.56	0 19.8				
23	11 22 44.03	16.535	6 2 11.4	102.53	23 14.2	23	14 31 17.40	15.026	15 31 46.8	89.59	0 21.9				
24	11 29 21.63	16.592	5 20 31.1	105.74	23 16.9	24	14 37 18.03	15.028	16 7 11.7	87.56	0 23.9				
25	11 36 0.11	16.609	4 37 40.0	108.43	23 19.6	25	14 43 18.75	15.033	16 41 48.1	85.47	0 26.0				
26	11 42 38.61	+16.595	+3 53 50.1	-110.65	23 22.3	26	14 49 19.63	+15.041	-17 15 34.0	- 83.34	0 28.1				
27	11 49 16.45	16.555	3 9 12.2	113.43	23 24.9	27	14 55 20.73	15.051	17 48 28.0	81.15	0 30.2				
28	11 55 53.09	16.496	2 23 56.6	113.81	23 27.6	28	15 1 22.09	15.062	18 20 28.9	78.91	0 32.2				
29	12 2 28.12	16.422	1 38 12.3	114.83	23 30.2	29	15 7 23.73	15.074	18 51 35.3	76.61	0 34.3				
30	12 9 1.24	16.337	0 52 7.4	115.52	23 32.8	30	15 13 25.66	15.087	19 21 46.0	74.26	0 36.4				
31	12 15 32.23	+16.945	+ 0 5 49.4	-115.93	23 35.3	31	15 19 27.90	+15.099	-19 50 59.6	- 71.86	0 38.5				
32	12 22 0.95	+16.148	- 0 40 35.3	-116.09	23 37.8	32	15 25 30.39	+15.109	-20 19 14.9	- 69.40	0 40.6				
Day of the Month.		2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.		2d.	7th.	12th.	17th.	22d.	27th.
Semidiameter . . .		4.7	4.0	3.5	3.0	2.7	2.5	Semidiameter		2.4	2.4	2.3	2.3	2.4	2.4
Hor. Parallax . . .		12.4	10.7	9.2	8.0	7.3	6.8	Hor. Parallax		6.5	6.3	6.2	6.2	6.3	6.4

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	15 25 30.39	+15.109	-20 19 14.9	-69.40	0 40.6	1	17 54 1.00	+1.804	-24 52 46.9	+31.16	1 10.6
2	15 31 33.10	15.116	20 46 30.3	66.88	0 42.7	2	17 54 22.96	+0.003	24 39 33.3	34.98	1 7.0
3	15 37 35.95	15.121	21 12 44.5	64.30	0 44.8	3	17 54 0.20	-1.919	24 24 48.2	38.79	1 2.7
4	15 43 38.86	15.121	21 37 56.0	61.65	0 46.9	4	17 52 50.16	3.998	24 8 31.7	42.59	0 57.5
5	15 49 41.72	15.116	22 2 3.4	58.94	0 49.1	5	17 50 51.35	5.975	23 50 44.6	46.33	0 51.6
6	15 55 44.36	+15.103	-22 25 5.1	-56.16	0 51.2	6	17 48 3.64	-7.991	-23 31 29.1	+49.93	0 44.9
7	16 1 46.58	15.081	22 46 59.7	53.35	0 53.3	7	17 44 28.70	9.895	23 10 50.0	53.27	0 37.4
8	16 7 48.15	15.048	23 7 45.5	50.45	0 55.4	8	17 40 10.32	11.593	22 48 55.9	56.15	0 29.2
9	16 13 48.81	15.004	23 27 20.8	47.48	0 57.4	9	17 35 14.66	12.986	22 26 0.3	58.36	0 20.4
10	16 19 48.22	14.945	23 45 44.2	44.45	0 59.5	10	17 29 50.07	13.989	22 2 23.8	59.55	0 11.1
11	16 25 46.01	+14.868	-24 2 54.0	-41.35	1 1.5	11	17 24 6.82	-14.533	-21 38 33.2	+59.45	0 1.5
12	16 31 41.73	14.771	24 18 48.5	38.18	1 3.5	12	17 18 16.38	14.585	21 15 1.4	57.93	23 42.1
13	16 37 34.87	14.652	24 33 26.1	34.94	1 5.4	13	17 12 30.58	14.149	20 52 24.9	54.85	23 32.7
14	16 43 24.83	14.507	24 46 45.1	31.64	1 7.3	14	17 7 0.76	13.266	20 31 21.0	50.22	23 23.8
15	16 49 10.93	14.331	24 58 44.2	28.27	1 9.1	15	17 1 56.83	12.004	20 12 25.5	44.21	23 15.4
16	16 54 52.40	+14.119	-25 9 21.5	-24.83	1 10.9	16	16 57 26.86	-10.452	-19 56 7.1	+37.19	23 7.6
17	17 0 28.31	13.867	25 18 35.7	21.34	1 12.5	17	16 53 36.65	8.708	19 42 46.0	29.46	23 0.5
18	17 5 57.67	13.571	25 26 25.2	17.78	1 14.1	18	16 50 29.79	6.855	19 32 35.8	21.38	22 54.2
19	17 11 19.30	13.222	25 32 48.7	14.17	1 15.5	19	16 48 7.86	4.972	19 25 39.7	13.33	22 48.7
20	17 16 31.87	12.815	25 37 45.1	10.52	1 16.8	20	16 46 30.92	3.117	19 21 53.6	+ 5.59	22 43.8
21	17 21 33.89	+12.340	-25 41 13.3	- 6.82	1 17.8	21	16 45 37.68	- 1.336	-19 21 7.4	- 1.63	22 39.6
22	17 26 23.61	11.790	25 43 12.2	- 3.08	1 18.7	22	16 45 25.98	+ 0.343	19 23 6.7	8.19	22 36.1
23	17 30 59.15	11.156	25 43 40.9	+ 0.69	1 19.4	23	16 45 53.20	1.904	19 27 34.4	13.98	22 33.2
24	17 35 18.35	10.427	25 42 38.9	4.48	1 19.8	24	16 46 56.36	3.338	19 34 11.8	19.00	22 30.8
25	17 39 18.80	9.592	25 40 5.9	8.28	1 19.8	25	16 48 32.44	4.647	19 42 40.1	23.23	22 29.0
26	17 42 57.82	+ 8.639	-25 36 1.6	+12.09	1 19.4	26	16 50 38.43	+ 5.833	-19 52 40.7	-26.70	22 27.6
27	17 46 12.46	7.559	25 30 25.6	15.91	1 18.7	27	16 53 11.51	6.905	20 3 56.0	29.46	22 26.6
28	17 48 59.56	6.344	25 23 18.1	19.71	1 17.5	28	16 56 9.01	7.870	20 16 9.5	31.56	22 25.9
29	17 51 15.78	4.981	25 14 39.1	23.52	1 15.8	29	16 59 28.49	8.738	20 29 6.1	33.06	22 25.6
30	17 52 57.46	3.467	25 4 28.8	27.34	1 13.5	30	17 3 7.74	9.519	20 42 32.3	34.02	22 25.6
31	17 54 1.00	+1.804	-24 52 46.9	+31.16	1 10.6	31	17 7 4.78	+10.222	-20 56 15.4	-34.50	22 25.8
32	17 54 22.96	+0.003	-24 39 33.3	+34.98	1 7.0	32	17 11 17.82	+10.854	-21 10 4.8	-34.54	22 26.3

Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.
Semidiameter . .	2.5	2.6	2.7	2.9	3.2	3.5	Semidiameter . .	4.0	4.6	4.9	4.7	4.2	3.7	3.3
Hor. Parallax . .	6.6	6.8	7.2	7.7	8.4	9.4	Hor. Parallax . .	10.7	12.2	13.0	12.6	11.2	9.9	8.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.													
JANUARY.						FEBRUARY.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	^h ^m ^s	^s	^o ['] ["]	["]	^h ^m		^h ^m ^s	^s	^o ['] ["]	["]	^h ^m		
1	20 36 41.88	+12.855	-20 19 4.4	+45.85	1 54.3	1	23 5 31.19	+11.965	-7 13 52.3	+75.59	2 20.9		
2	20 41 49.72	12.799	20 0 26.7	47.99	1 55.5	2	23 10 1.13	11.930	6 43 32.8	76.03	2 21.5		
3	20 46 56.22	12.742	19 41 14.8	48.70	1 56.7	3	23 14 30.24	11.196	6 13 3.2	76.44	2 22.0		
4	20 52 1.35	12.685	19 21 29.4	50.08	1 57.9	4	23 18 58.57	11.164	5 42 24.2	76.81	2 22.5		
5	20 57 5.10	12.627	19 1 11.2	51.43	1 59.0	5	23 23 26.14	11.133	5 11 36.6	77.15	2 23.0		
6	21 2 7.46	+12.569	-18 40 21.0	+52.75	2 0.1	6	23 27 52.99	+11.104	-4 40 41.3	+77.46	2 23.5		
7	21 7 8.43	12.511	18 18 59.5	54.04	2 1.2	7	23 32 19.16	11.076	4 9 38.9	77.74	2 24.0		
8	21 12 8.00	12.453	17 57 7.5	55.29	2 2.2	8	23 36 44.67	11.050	3 38 30.3	77.98	2 24.5		
9	21 17 6.16	12.394	17 34 45.8	56.51	2 3.2	9	23 41 9.58	11.026	3 7 16.2	78.20	2 25.0		
10	21 22 2.93	12.336	17 11 55.2	57.70	2 4.2	10	23 45 33.92	11.003	2 35 57.3	78.38	2 25.5		
11	21 26 58.31	+12.278	-16 48 36.5	+58.86	2 5.2	11	23 49 57.73	+10.982	-2 4 34.4	+78.53	2 25.9		
12	21 31 52.30	12.221	16 24 50.4	59.98	2 6.1	12	23 54 21.05	10.969	1 33 8.1	78.65	2 26.4		
13	21 36 44.91	12.164	16 0 37.8	61.07	2 7.0	13	23 58 43.92	10.944	1 1 39.3	78.74	2 26.8		
14	21 41 36.17	12.108	15 35 59.4	62.13	2 7.9	14	0 3 6.37	10.928	-0 30 8.6	78.80	2 27.3		
15	21 46 26.08	12.052	15 10 56.0	63.15	2 8.8	15	0 7 28.45	10.913	+0 1 23.2	78.83	2 27.7		
16	21 51 14.66	+11.997	-14 45 28.4	+64.14	2 9.7	16	0 11 50.19	+10.900	+0 32 55.5	+78.84	2 28.1		
17	21 56 1.93	11.943	14 19 37.4	65.10	2 10.6	17	0 16 11.65	10.889	1 4 27.5	78.81	2 28.5		
18	22 0 47.92	11.890	13 53 23.8	66.03	2 11.4	18	0 20 32.86	10.879	1 35 58.6	78.76	2 28.9		
19	22 5 32.64	11.837	13 26 48.3	66.92	2 12.2	19	0 24 53.87	10.871	2 7 28.0	78.68	2 29.3		
20	22 10 16.12	11.786	12 59 51.7	67.79	2 13.0	20	0 29 14.70	10.865	2 38 55.1	78.57	2 29.7		
21	22 14 58.38	+11.736	-12 32 34.8	+68.62	2 13.8	21	0 33 35.40	+10.860	+3 10 19.1	+78.43	2 30.1		
22	22 19 39.46	11.686	12 4 58.4	69.42	2 14.5	22	0 37 56.00	10.857	3 41 39.4	78.26	2 30.5		
23	22 24 19.37	11.639	11 37 3.2	70.18	2 15.2	23	0 42 16.55	10.855	4 12 55.2	78.06	2 30.9		
24	22 28 58.15	11.592	11 8 50.1	70.91	2 15.9	24	0 46 37.07	10.855	4 44 5.8	77.83	2 31.3		
25	22 33 35.82	11.547	10 40 19.8	71.61	2 16.6	25	0 50 57.60	10.856	5 15 10.5	77.57	2 31.7		
26	22 38 12.43	+11.503	-10 11 33.1	+72.28	2 17.3	26	0 55 18.18	+10.859	+5 46 8.7	+77.26	2 32.1		
27	22 42 48.00	11.460	9 42 30.7	72.91	2 18.0	27	0 59 38.84	10.863	6 16 59.6	76.96	2 32.5		
28	22 47 22.55	11.418	9 13 13.5	73.51	2 18.6	28	1 3 59.60	10.868	6 47 42.5	76.61	2 32.9		
29	22 51 56.11	11.378	8 43 42.3	74.08	2 19.2	29	1 8 20.51	10.875	7 18 16.7	76.23	2 33.3		
30	22 56 28.72	11.339	8 13 57.8	74.62	2 19.8	30	1 12 41.58	10.889	7 48 41.4	75.82	2 33.7		
31	23 1 0.40	+11.301	-7 44 0.9	+75.12	2 20.4	31	1 17 2.85	+10.891	+8 18 55.9	+75.36	2 34.1		
32	23 5 31.19	+11.265	-7 13 52.3	+75.59	2 20.9	32	1 21 24.33	+10.900	+8 48 59.5	+74.91	2 34.5		
Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.
Semidiameter . .	5.8	5.9	6.0	6.1	6.2	6.3	6.4	Semidiameter	6.6	6.7	6.9	7.0	7.2
Hor. Parallax . .	6.0	6.1	6.2	6.3	6.4	6.5	6.7	Hor. Parallax	6.8	6.9	7.1	7.3	7.5

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

MARCH.

APRIL.

Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	1 12 41.58	+10.882	+ 7 48 41.4	+75.82	2 33.7	1	3 30 45.59	+11.437	+21 10 28.2	+49.22	2 49.6
2	1 17 2.85	10.891	8 18 55.9	75.38	2 34.1	2	3 35 20.24	11.451	21 29 54.1	47.95	2 50.2
3	1 21 24.33	10.900	8 48 59.5	74.91	2 34.5	3	3 39 55.21	11.463	21 48 49.4	46.66	2 50.9
4	1 25 46.06	10.911	9 18 51.5	74.41	2 35.0	4	3 44 30.45	11.474	22 7 13.5	45.35	2 51.5
5	1 30 8.06	10.922	9 48 31.1	73.86	2 35.4	5	3 49 5.92	11.483	22 25 6.1	44.02	2 52.2
6	1 34 30.34	+10.935	+10 17 57.7	+73.33	2 35.8	6	3 53 41.59	+11.490	+22 42 26.6	+43.68	2 52.8
7	1 38 52.94	10.948	10 47 10.5	72.74	2 36.3	7	3 58 17.40	11.495	22 59 14.6	41.32	2 53.5
8	1 43 15.88	10.963	11 16 8.8	72.12	2 36.7	8	4 2 53.31	11.498	23 15 29.7	39.94	2 54.1
9	1 47 39.19	10.978	11 44 52.0	71.47	2 37.2	9	4 7 29.27	11.499	23 31 11.5	38.55	2 54.8
10	1 52 2.88	10.994	12 13 19.3	70.79	2 37.6	10	4 12 5.23	11.497	23 46 19.6	37.14	2 55.4
11	1 56 26.97	+11.011	+12 41 29.9	+70.09	2 38.1	11	4 16 41.13	+11.493	+24 0 53.9	+35.71	2 56.1
12	2 0 51.47	11.029	13 9 23.4	69.36	2 38.5	12	4 21 16.91	11.487	24 14 54.0	34.28	2 56.7
13	2 5 16.41	11.043	13 36 59.0	68.60	2 39.0	13	4 25 52.50	11.478	24 28 19.6	32.83	2 57.4
14	2 9 41.81	11.068	14 4 15.9	67.81	2 39.5	14	4 30 27.84	11.467	24 41 10.3	31.38	2 58.0
15	2 14 7.68	11.088	14 31 13.8	67.00	2 40.0	15	4 35 2.87	11.453	24 53 26.0	29.92	2 58.7
16	2 18 34.03	+11.109	+14 57 51.8	+66.16	2 40.5	16	4 39 37.53	+11.436	+25 5 6.4	+28.45	2 59.3
17	2 23 0.88	11.130	15 24 9.2	65.29	2 41.0	17	4 44 11.76	11.416	25 16 11.4	26.97	3 0.0
18	2 27 28.25	11.151	15 50 5.5	64.40	2 41.5	18	4 48 45.47	11.393	25 26 40.8	25.48	3 0.6
19	2 31 56.14	11.173	16 15 40.0	63.48	2 42.0	19	4 53 18.60	11.367	25 36 34.6	24.00	3 1.2
20	2 36 24.55	11.195	16 40 52.2	62.53	2 42.6	20	4 57 51.06	11.337	25 45 52.6	22.51	3 1.8
21	2 40 53.50	+11.217	+17 5 41.4	+61.56	2 43.1	21	5 2 22.76	+11.304	+25 54 34.9	+21.02	3 2.4
22	2 45 22.98	11.239	17 30 6.9	60.56	2 43.7	22	5 6 53.63	11.268	26 2 41.4	19.52	3 3.0
23	2 49 52.99	11.261	17 54 8.1	59.54	2 44.2	23	5 11 23.57	11.228	26 10 12.1	18.03	3 3.5
24	2 54 23.53	11.283	18 17 44.5	58.49	2 44.8	24	5 15 52.50	11.183	26 17 6.9	16.54	3 4.0
25	2 58 54.60	11.305	18 40 55.3	57.41	2 45.3	25	5 20 20.32	11.135	26 23 26.0	15.05	3 4.5
26	3 3 26.19	+11.326	+19 3 40.1	+56.31	2 45.9	26	5 24 46.92	+11.089	+26 29 9.5	+13.57	3 5.0
27	3 7 58.28	11.347	19 25 58.2	55.19	2 46.5	27	5 29 12.21	11.025	26 34 17.4	12.09	3 5.5
28	3 12 30.85	11.367	19 47 49.0	54.04	2 47.1	28	5 33 36.08	10.964	26 38 49.9	10.62	3 6.0
29	3 17 3.89	11.386	20 9 11.9	52.87	2 47.7	29	5 37 58.43	10.898	26 42 47.2	9.15	3 6.4
30	3 21 37.38	11.404	20 30 6.5	51.68	2 48.3	30	5 42 19.14	10.827	26 46 9.4	7.70	3 6.8
31	3 26 11.29	+11.421	+20 50 32.1	+50.46	2 48.9	31	5 46 38.08	+10.751	+26 48 56.9	+ 6.26	3 7.2
32	3 30 45.59	+11.437	+21 10 28.2	+49.22	2 49.6	32	5 50 55.13	+10.670	+26 51 9.9	+ 4.83	3 7.5

Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .	74	76	79	81	84	87	90	Semidiameter . .	94	98	103	108	114	120
Hor. Parallax . .	7.7	7.9	8.1	8.4	8.7	9.0	9.4	Hor. Parallax . .	9.7	10.2	10.6	11.2	11.8	12.4

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
1	h m s 5 46 38.08	+10.751	+26 48 56.9	+ 6.96	3 7.2	1	h m s 7 34 0.71	+5.564	+24 16 3.9	-25.66	2 52.1
2	5 50 55.13	10.676	26 51 9.9	4.83	3 7.5	2	7 36 10.88	5.381	24 5 37.4	26.33	2 50.3
3	5 55 10.19	10.584	26 52 48.8	3.41	3 7.8	3	7 38 14.15	4.989	23 55 0.5	26.74	2 48.4
4	5 59 23.12	10.493	26 53 53.8	2.01	3 8.1	4	7 40 10.28	4.687	23 44 14.4	27.10	2 46.3
5	6 3 33.80	10.397	26 54 25.4	+ 0.63	3 8.3	5	7 41 59.04	4.376	23 33 30.1	27.42	2 44.1
6	6 7 42.10	+10.305	+26 54 24.0	- 0.74	3 8.5	6	7 43 40.21	+4.055	+23 22 18.6	-27.70	2 41.8
7	6 11 47.91	10.188	26 53 50.2	2.09	3 8.6	7	7 45 13.57	3.794	23 11 10.9	27.94	2 39.4
8	6 15 51.09	10.076	26 52 44.3	3.41	3 8.7	8	7 46 38.87	3.394	22 59 58.0	28.13	2 37.0
9	6 19 51.52	9.959	26 51 7.0	4.71	3 8.8	9	7 47 55.90	3.034	22 48 41.0	28.38	2 34.4
10	6 23 49.06	9.836	26 48 58.7	5.96	3 8.2	10	7 49 4.42	2.675	22 37 30.9	28.59	2 31.6
11	6 27 43.59	+ 9.708	+26 46 20.1	- 7.33	3 8.8	11	7 50 4.22	+2.397	+22 25 53.7	-28.45	2 28.6
12	6 31 34.97	9.574	26 43 11.8	8.45	3 8.7	12	7 50 55.10	1.930	22 14 35.6	28.47	2 25.5
13	6 35 23.08	9.435	26 39 34.5	9.85	3 8.6	13	7 51 36.84	1.546	22 3 12.4	28.46	2 22.2
14	6 39 7.78	9.290	26 35 28.8	10.82	3 8.4	14	7 52 9.27	1.134	21 51 50.0	28.41	2 18.8
15	6 42 48.94	9.140	26 30 55.5	11.95	3 8.1	15	7 52 32.20	0.755	21 40 29.3	28.38	2 15.2
16	6 46 26.43	+ 8.984	+26 25 55.2	-13.06	3 7.8	16	7 52 45.47	+0.349	+21 29 11.0	-28.30	2 11.5
17	6 50 0.10	8.822	26 20 28.7	14.14	3 7.4	17	7 52 48.92	-0.082	21 17 56.0	28.05	2 7.6
18	6 53 29.82	8.654	26 14 36.7	15.18	3 6.9	18	7 52 42.43	0.478	21 6 45.0	27.87	2 3.4
19	6 56 55.44	8.480	26 8 20.2	16.19	3 6.4	19	7 52 25.89	0.289	20 55 38.8	27.66	1 59.4
20	7 0 16.81	8.300	26 1 39.9	17.16	3 5.8	20	7 51 59.25	1.322	20 44 38.1	27.42	1 55.0
21	7 3 33.78	+ 8.113	+25 54 36.6	-18.10	3 5.2	21	7 51 22.45	-1.745	+20 33 43.7	-27.15	1 50.4
22	7 6 46.19	7.990	25 47 11.3	19.00	3 4.5	22	7 50 35.49	2.188	20 22 56.0	26.85	1 45.7
23	7 9 53.88	7.790	25 39 24.7	19.87	3 3.6	23	7 49 38.40	2.588	20 12 15.9	26.52	1 40.8
24	7 12 56.68	7.513	25 31 17.8	20.70	3 2.7	24	7 48 31.28	3.004	20 1 43.8	26.17	1 35.8
25	7 15 54.41	7.268	25 22 51.4	21.49	3 1.7	25	7 47 14.26	3.413	19 51 20.4	25.80	1 30.6
26	7 18 46.89	+ 7.075	+25 14 6.6	-22.24	3 0.6	26	7 45 47.55	-3.811	+19 41 6.1	-25.40	1 25.2
27	7 21 33.95	6.845	25 5 4.2	22.95	2 59.4	27	7 44 11.41	4.197	19 31 1.6	24.98	1 19.7
28	7 24 15.38	6.606	24 55 45.2	23.62	2 58.1	28	7 42 26.18	4.589	19 21 7.2	24.54	1 14.0
29	7 26 50.98	6.359	24 46 10.7	24.35	2 56.8	29	7 40 32.25	4.932	19 11 23.7	24.08	1 8.1
30	7 29 20.54	6.103	24 36 21.7	24.84	2 55.4	30	7 38 30.10	5.223	19 1 51.6	23.59	1 2.0
31	7 31 43.86	+ 5.839	+24 26 19.0	-25.38	2 53.8	31	7 36 20.28	-5.589	+18 52 31.6	-23.08	0 55.9
32	7 34 0.71	+ 5.564	+24 16 3.9	-25.66	2 52.1	32	7 34 3.43	-5.839	+18 43 24.3	-22.54	0 49.8
Day of the Month.						Day of the Month.					
5th.						4th.					
10th.						9th.					
15th.						14th.					
20th.						19th.					
25th.						24th.					
30th.						29th.					
Semidiameter . .						Semidiameter . .					
Hor. Parallax . .						Hor. Parallax . .					
12.7						19.4					
13.5						21.0					
14.4						22.8					
15.4						24.6					
16.6						26.4					
17.9						28.0					
18.6						29.3					

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>		<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>
1	7 36 20.28	-5.500	+18 52 31.6	-23.08	0 55.9	1	6 40 7.58	+0.434	+16 44 17.8	+3.50	21 54.6
2	7 34 3.43	5.830	18 43 24.3	22.54	0 49.8	2	6 40 22.73	0.897	16 45 51.0	4.17	21 51.0
3	7 31 40.27	6.098	18 34 30.3	21.97	0 43.5	3	6 40 47.24	1.213	16 47 37.4	4.09	21 47.6
4	7 29 11.57	6.300	18 25 50.5	21.36	0 37.1	4	6 41 20.92	1.501	16 49 35.4	5.14	21 44.4
5	7 26 38.18	6.476	18 17 25.6	20.72	0 30.7	5	6 42 3.54	1.960	16 51 43.5	5.53	21 41.3
6	7 24 1.00	-6.619	+18 9 16.3	-20.05	0 24.2	6	6 42 54.91	+2.319	+16 54 0.2	+5.85	21 38.3
7	7 21 20.99	6.712	18 1 23.5	19.34	0 17.7	7	6 43 54.82	2.670	16 56 23.8	6.11	21 35.5
8	7 18 39.16	6.767	17 53 48.1	18.60	0 11.1	8	6 45 3.01	3.011	16 58 52.8	6.30	21 32.8
9	7 15 56.55	6.778	17 46 31.0	17.80	0 4.5	9	6 46 19.27	3.342	17 1 25.6	6.43	21 30.2
10	7 13 14.13	6.748	17 39 33.1	17.00	23 51.2	10	6 47 43.36	3.664	17 4 0.8	6.40	21 27.8
11	7 10 32.93	-6.676	+17 32 55.4	-16.14	23 44.6	11	6 49 15.05	+3.976	+17 6 37.1	+6.40	21 25.5
12	7 7 53.98	6.568	17 26 38.8	15.94	23 38.1	12	6 50 54.10	4.977	17 9 12.3	6.43	21 23.3
13	7 5 18.24	6.408	17 20 44.3	14.31	23 31.6	13	6 52 40.25	4.566	17 11 45.1	6.31	21 21.2
14	7 2 46.67	6.216	17 15 12.6	13.34	23 25.2	14	6 54 33.27	4.846	17 14 14.3	6.12	21 19.3
15	7 0 20.13	5.980	17 10 4.3	12.35	23 19.0	15	6 56 32.93	5.119	17 16 38.4	5.86	21 17.4
16	6 57 59.45	-5.730	+17 5 20.2	-11.33	23 12.9	16	6 58 38.98	+5.368	+17 18 56.0	+5.56	21 15.7
17	6 55 45.35	5.441	17 1 0.7	10.29	23 6.9	17	7 0 51.18	5.634	17 21 5.8	5.23	21 14.0
18	6 53 38.52	5.125	16 57 6.4	9.94	23 1.0	18	7 3 9.31	5.876	17 23 6.5	4.88	21 12.5
19	6 51 39.53	4.786	16 53 37.5	8.18	22 55.2	19	7 5 33.16	6.109	17 24 56.8	4.36	21 11.1
20	6 49 48.95	4.427	16 50 34.0	7.12	22 49.6	20	7 8 2.50	6.334	17 26 35.6	3.86	21 9.7
21	6 48 7.18	-4.059	+16 47 55.9	-6.06	22 44.1	21	7 10 37.11	+6.549	+17 28 1.9	+3.31	21 8.4
22	6 46 34.59	3.663	16 45 43.0	5.09	22 38.8	22	7 13 16.80	6.756	17 29 14.5	2.73	21 7.2
23	6 45 11.45	3.204	16 43 55.0	3.90	22 33.6	23	7 16 1.35	6.955	17 30 12.4	2.09	21 6.1
24	6 43 58.02	2.856	16 42 31.4	2.98	22 28.6	24	7 18 50.57	7.146	17 30 54.7	1.42	21 5.0
25	6 42 54.42	2.443	16 41 31.5	2.01	22 23.8	25	7 21 44.30	7.330	17 31 20.3	+0.71	21 4.0
26	6 42 0.76	-2.028	+16 40 54.6	-1.07	22 19.1	26	7 24 42.34	+7.506	+17 31 28.4	-0.04	21 3.1
27	6 41 17.09	1.611	16 40 39.7	-0.17	22 14.6	27	7 27 44.52	7.675	17 31 18.1	0.82	21 2.3
28	6 40 43.44	1.195	16 40 45.9	+0.00	22 10.3	28	7 30 50.68	7.838	17 30 48.6	1.64	21 1.5
29	6 40 19.74	0.781	16 41 12.1	1.40	22 6.1	29	7 34 0.67	7.994	17 29 59.0	2.49	21 0.8
30	6 40 5.95	-0.370	16 41 57.0	2.24	22 2.1	30	7 37 14.34	8.144	17 28 48.7	3.37	21 0.1
31	6 40 1.94	+0.035	+16 42 59.3	+2.24	21 58.3	31	7 40 31.53	+8.288	+17 27 16.9	-4.28	20 59.5
32	6 40 7.58	+0.424	+16 44 17.8	+3.50	21 54.6	32	7 43 52.11	+8.426	+17 25 23.0	-5.22	20 58.9

Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.	Day of the Month.	3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter ..	29.1	28.7	29.1	28.1	26.6	24.8	Semidiameter ..	23.0	21.3	19.7	18.2	16.9	15.8
Hor. Parallax ..	46.9	46.3	46.8	48.4	50.8	53.7	Hor. Parallax ..	57.0	60.4	63.8	67.1	70.3	73.4

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
1	h m s 7 43 52.11	s + 8.496	° ' " +17 25 23.0	" - 5.92	h m 20 58.9	1	h m s 9 41 1.21	s +10.538	° ' " +13 4 17.5	" -38.91	h m 20 58.5
2	7 47 15.94	8.559	17 23 6.3	6.18	20 58.4	2	9 45 14.40	10.562	12 48 30.6	40.00	20 58.8
3	7 50 42.90	8.687	17 20 26.1	7.17	20 57.9	3	9 49 28.14	10.584	12 32 17.8	41.07	20 59.1
4	7 54 12.86	8.809	17 17 21.9	8.18	20 57.5	4	9 53 42.40	10.605	12 15 39.3	42.13	20 59.4
5	7 57 45.68	8.936	17 13 53.1	9.22	20 57.1	5	9 57 57.15	10.624	11 58 35.5	43.18	20 59.7
6	8 1 21.25	+ 9.038	+17 9 59.2	-10.98	20 56.8	6	10 2 12.35	+10.642	+11 41 6.8	-44.31	21 0.0
7	8 4 59.44	9.145	17 5 39.7	11.35	20 56.5	7	10 6 27.97	10.659	11 23 13.4	45.33	21 0.3
8	8 8 40.15	9.247	17 0 54.2	12.44	20 56.3	8	10 10 43.99	10.675	11 4 55.8	46.33	21 0.6
9	8 12 23.26	9.345	16 55 42.3	13.55	20 56.1	9	10 15 0.37	10.690	10 46 14.4	47.22	21 1.0
10	8 16 8.66	9.438	16 50 3.6	14.67	20 56.0	10	10 19 17.10	10.704	10 27 9.5	48.18	21 1.3
11	8 19 56.25	+ 9.527	+16 43 57.8	-15.81	20 55.9	11	10 23 34.14	+10.717	+10 7 41.7	-49.13	21 1.7
12	8 23 45.92	9.611	16 37 24.6	16.96	20 55.8	12	10 27 51.48	10.729	9 47 51.4	50.05	21 2.1
13	8 27 37.55	9.691	16 30 23.7	18.19	20 55.8	13	10 32 9.10	10.740	9 27 39.2	50.96	21 2.5
14	8 31 31.04	9.767	16 22 54.9	19.39	20 55.8	14	10 36 26.97	10.750	9 7 5.5	51.84	21 2.8
15	8 35 26.29	9.838	16 14 58.0	20.46	20 55.8	15	10 40 45.08	10.760	8 46 10.9	52.70	21 3.2
16	8 39 23.21	+ 9.905	+16 6 32.9	-21.63	20 55.9	16	10 45 3.41	+10.769	+ 8 24 55.9	-53.54	21 3.6
17	8 43 21.71	9.969	15 57 39.7	22.81	20 55.9	17	10 49 21.95	10.777	8 3 21.2	54.35	21 3.9
18	8 47 21.69	10.029	15 48 18.3	23.96	20 56.0	18	10 53 40.69	10.785	7 41 27.3	55.14	21 4.3
19	8 51 23.06	10.085	15 38 28.6	25.16	20 56.1	19	10 57 59.62	10.792	7 19 14.7	55.90	21 4.7
20	8 55 25.74	10.138	15 28 10.7	26.33	20 56.2	20	11 2 18.72	10.800	6 56 44.1	56.64	21 5.0
21	8 59 29.65	+10.187	+15 17 24.5	-27.51	20 56.3	21	11 6 38.00	+10.807	+ 6 33 56.0	-57.35	21 5.4
22	9 3 34.70	10.233	15 6 10.1	28.69	20 56.2	22	11 10 57.44	10.814	6 10 51.2	58.04	21 5.8
23	9 7 40.83	10.277	14 54 27.5	29.85	20 56.6	23	11 15 17.05	10.821	5 47 30.2	58.70	21 6.2
24	9 11 47.97	10.317	14 42 17.1	31.01	20 56.8	24	11 19 36.84	10.828	5 23 53.7	59.34	21 6.6
25	9 15 56.05	10.355	14 29 38.9	32.17	20 57.0	25	11 23 56.80	10.836	5 0 2.2	59.95	21 7.0
26	9 20 5.01	+10.391	+14 16 33.2	-33.32	20 57.2	26	11 28 16.95	+10.844	+ 4 35 56.5	-60.53	21 7.4
27	9 24 14.80	10.424	14 3 0.1	34.45	20 57.4	27	11 32 37.29	10.852	4 11 37.1	61.09	21 7.8
28	9 28 25.36	10.455	13 48 59.7	35.58	20 57.6	28	11 36 57.84	10.861	3 47 4.7	61.62	21 8.2
29	9 32 36.65	10.485	13 34 32.3	36.70	20 57.9	29	11 41 18.60	10.870	3 22 19.9	62.12	21 8.6
30	9 36 48.61	10.512	13 19 38.1	37.81	20 58.2	30	11 45 39.59	10.879	2 57 23.3	62.60	21 9.0
31	9 41 1.21	+10.538	+13 4 17.5	-38.91	20 58.5	31	11 50 0.81	+10.889	+ 2 32 15.5	-63.05	21 9.4
32	9 45 14.40	+10.562	+12 48 30.6	-40.00	20 58.8	32	11 54 22.29	+10.900	+ 2 6 57.2	-63.47	21 9.8

Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.
Semidiameter . . .	14.8	13.8	13.0	12.3	11.7	11.1	Semidiameter	10.6	10.1	9.7	9.3	9.0	8.6
Hor. Parallax . . .	15.3	14.3	13.5	12.7	12.1	11.5	Hor. Parallax	11.0	10.5	10.0	9.6	9.3	8.9

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
1	h m s	s	° ' "	"	h m	1	h m s	s	° ' "	"	h m
1	11 54 22.29	+10.900	+ 2 6 57.2	-63.47	21 9.8	1	14 8 54.77	+11.671	-10 55 2.7	-62.14	21 26.4
2	11 58 44.04	10.919	1 41 29.1	63.87	21 10.3	2	14 13 35.35	11.719	11 19 47.6	61.60	21 27.1
3	12 3 6.10	10.935	1 15 51.8	64.94	21 10.7	3	14 18 16.93	11.755	11 44 19.2	61.03	21 27.8
4	12 7 28.48	10.939	0 50 6.1	64.58	21 11.1	4	14 22 59.55	11.796	12 8 36.6	60.43	21 28.6
5	12 11 51.20	10.954	+ 0 24 12.5	64.89	21 11.5	5	14 27 43.22	11.843	12 32 39.1	59.78	21 29.4
6	12 16 14.29	+10.970	- 0 1 48.4	-66.18	21 12.0	6	14 32 27.97	+11.888	-12 56 25.9	-59.11	21 30.2
7	12 20 37.76	10.987	0 27 55.7	65.44	21 12.4	7	14 37 13.83	11.934	13 19 56.3	58.41	21 31.0
8	12 25 1.63	11.004	0 54 8.8	65.66	21 12.9	8	14 42 0.80	11.981	13 43 9.3	57.67	21 31.9
9	12 29 25.94	11.022	1 20 27.0	65.85	21 13.3	9	14 46 48.91	12.029	14 6 4.3	56.90	21 32.8
10	12 33 50.70	11.041	1 46 49.5	66.02	21 13.8	10	14 51 38.17	12.077	14 28 40.4	56.10	21 33.7
11	12 38 15.91	+11.061	- 2 13 15.6	-66.16	21 14.3	11	14 56 28.59	+12.125	-14 50 56.7	-55.35	21 34.6
12	12 42 41.62	11.082	2 39 44.6	66.36	21 14.8	12	15 1 20.18	12.174	15 12 52.5	54.39	21 35.6
13	12 47 7.85	11.104	3 6 15.8	66.33	21 15.3	13	15 6 12.94	12.223	15 34 27.0	53.48	21 36.6
14	12 51 34.62	11.127	3 32 48.4	66.37	21 15.8	14	15 11 6.88	12.273	15 55 39.3	52.54	21 37.6
15	12 56 1.95	11.151	3 59 21.6	66.38	21 16.3	15	15 16 2.02	12.323	16 16 28.7	51.57	21 38.6
16	13 0 29.86	+11.175	- 4 25 54.7	-66.36	21 16.9	16	15 20 58.35	+12.373	-16 36 54.3	-50.56	21 39.6
17	13 4 58.37	11.201	4 52 26.8	66.31	21 17.4	17	15 25 55.88	12.423	16 56 55.3	49.59	21 40.6
18	13 9 27.51	11.228	5 18 57.2	66.22	21 18.0	18	15 30 54.61	12.473	17 16 30.9	48.45	21 41.7
19	13 13 57.31	11.256	5 45 25.1	66.10	21 18.5	19	15 35 54.52	12.521	17 35 40.4	47.30	21 42.8
20	13 18 27.79	11.284	6 11 49.8	65.95	21 19.1	20	15 40 55.61	12.570	17 54 23.0	46.21	21 43.9
21	13 22 58.96	+11.314	- 6 38 10.4	-65.76	21 19.7	21	15 45 57.86	+12.618	-18 12 35.0	-45.04	21 45.0
22	13 27 30.85	11.344	7 4 26.1	65.54	21 20.3	22	15 51 1.29	12.666	18 20 24.6	43.84	21 46.1
23	13 32 3.49	11.376	7 30 36.2	65.29	21 20.9	23	15 56 5.85	12.714	18 47 42.1	42.61	21 47.3
24	13 36 36.90	11.408	7 56 39.9	65.01	21 21.6	24	16 1 11.57	12.762	19 4 29.8	41.35	21 48.4
25	13 41 11.11	11.442	8 22 36.5	64.70	21 22.2	25	16 6 18.42	12.809	19 20 46.9	40.06	21 49.6
26	13 45 46.16	+11.478	- 8 48 25.2	-64.35	21 22.9	26	16 11 26.38	+12.855	-19 36 32.6	-38.74	21 50.8
27	13 50 22.06	11.515	9 14 5.2	63.97	21 23.6	27	16 16 35.45	12.900	19 51 46.4	37.40	21 52.0
28	13 54 58.85	11.552	9 39 35.7	63.56	21 24.3	28	16 21 45.60	12.945	20 6 27.6	36.03	21 53.3
29	13 59 36.55	11.591	10 4 55.9	63.19	21 25.0	29	16 26 56.81	12.988	20 20 35.6	34.63	21 54.5
30	14 4 15.17	11.630	10 30 5.2	62.65	21 25.7	30	16 32 9.05	13.031	20 34 9.8	33.21	21 55.8
31	14 8 54.77	+11.671	-10 55 2.7	-62.14	21 26.4	31	16 37 22.29	+13.073	-20 47 9.6	-31.77	21 57.1
32	14 13 35.35	+11.719	-11 19 47.6	-61.60	21 27.1	32	16 42 36.52	+13.113	-20 59 34.4	-30.30	21 58.4
Day of the Month.						Day of the Month.					
1st.						1st.					
6th.						6th.					
11th.						11th.					
16th.						16th.					
21st.						21st.					
26th.						26th.					
31st.						31st.					
Semidiameter . .						Semidiameter . .					
Hor. Parallax . .						Hor. Parallax . .					
8.3						7.0					
8.1						6.8					
7.8						6.7					
7.6						6.5					
7.4						6.4					
7.2						6.3					
7.0						6.2					

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

GREENWICH MEAN TIME.											
JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>		<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>
1	14 52 27.00	+6.949	-15 38 31.9	-28.51	20 8.8	1	16 11 45.03	+6.593	-20 33 16.5	-18.56	19 26.0
2	14 54 57.09	6.958	15 49 52.9	28.23	20 7.3	2	16 14 21.66	6.599	20 40 37.4	18.19	19 24.7
3	14 57 27.41	6.968	16 1 7.2	27.95	20 5.9	3	16 16 58.42	6.535	20 47 49.5	17.88	19 23.3
4	14 59 57.96	6.978	16 12 14.8	27.67	20 4.5	4	16 19 35.32	6.541	20 54 52.8	17.45	19 22.0
5	15 2 28.74	6.987	16 23 15.5	27.39	20 3.1	5	16 22 12.35	6.546	21 1 47.2	17.08	19 20.6
6	15 4 59.75	+6.997	-16 34 9.3	-27.10	20 1.6	6	16 24 49.50	+6.551	-21 8 32.7	-16.71	19 19.3
7	15 7 30.99	6.997	16 44 56.2	26.81	20 0.2	7	16 27 26.78	6.556	21 15 9.3	16.34	19 18.0
8	15 10 2.47	6.916	16 55 36.0	26.51	19 58.8	8	16 30 4.17	6.561	21 21 36.9	15.97	19 16.7
9	15 12 34.18	6.926	17 6 8.7	26.21	19 57.4	9	16 32 41.68	6.565	21 27 55.5	15.59	19 15.4
10	15 15 6.13	6.936	17 16 34.2	25.91	19 56.0	10	16 35 19.30	6.570	21 34 5.2	15.21	19 14.1
11	15 17 38.31	+6.946	-17 26 52.5	-25.61	19 54.6	11	16 37 57.03	+6.574	-21 40 5.8	-14.54	19 12.8
12	15 20 10.72	6.956	17 37 3.4	25.30	19 53.2	12	16 40 34.85	6.578	21 45 57.4	14.46	19 11.5
13	15 22 43.38	6.966	17 47 7.0	24.99	19 51.8	13	16 43 12.76	6.582	21 51 39.8	14.06	19 10.2
14	15 25 16.27	6.976	17 57 3.1	24.68	19 50.4	14	16 45 50.77	6.586	21 57 13.2	13.70	19 8.9
15	15 27 49.39	6.986	18 6 51.8	24.37	19 49.0	15	16 48 28.86	6.590	22 2 37.5	13.32	19 7.6
16	15 30 22.75	+6.995	-18 16 32.8	-24.05	19 47.6	16	16 51 7.02	+6.594	-22 7 52.7	-12.94	19 6.3
17	15 32 56.34	6.405	18 26 6.2	23.73	19 46.3	17	16 53 45.25	6.594	22 12 58.6	12.56	19 5.0
18	15 35 30.16	6.414	18 35 31.8	23.41	19 44.9	18	16 56 23.53	6.596	22 17 55.4	12.18	19 3.7
19	15 38 4.21	6.423	18 44 49.6	23.08	19 43.6	19	16 59 1.86	6.597	22 22 42.9	11.79	19 2.4
20	15 40 38.48	6.432	18 53 59.5	22.75	19 42.2	20	17 1 40.21	6.598	22 27 21.1	11.40	19 1.1
21	15 43 12.97	+6.441	-19 3 1.5	-22.42	19 40.8	21	17 4 18.59	+6.599	-22 31 50.1	-11.02	18 59.8
22	15 45 47.67	6.450	19 11 55.4	22.08	19 39.5	22	17 6 56.97	6.599	22 36 9.9	10.64	18 58.5
23	15 48 22.58	6.459	19 20 41.3	21.74	19 38.1	23	17 9 35.35	6.599	22 40 20.4	10.25	18 57.2
24	15 50 57.69	6.467	19 29 19.0	21.40	19 36.8	24	17 12 13.73	6.593	22 44 21.5	9.86	18 55.9
25	15 53 33.00	6.475	19 37 48.3	21.05	19 35.4	25	17 14 52.07	6.596	22 48 13.4	9.47	18 54.6
26	15 56 8.49	+6.483	-19 46 9.3	-20.70	19 34.1	26	17 17 30.37	+6.594	-22 51 56.0	-9.08	18 53.3
27	15 58 44.17	6.490	19 54 21.9	20.35	19 32.7	27	17 20 8.62	6.599	22 55 29.3	8.69	18 52.0
28	16 1 20.02	6.497	20 2 26.0	20.00	19 31.4	28	17 22 46.81	6.599	22 58 53.3	8.31	18 50.7
29	16 3 56.04	6.504	20 10 21.6	19.64	19 30.0	29	17 25 24.92	6.596	23 2 8.1	7.92	18 49.3
30	16 6 32.22	6.511	20 18 8.6	19.28	19 28.7	30	17 28 2.95	6.593	23 5 13.7	7.54	18 48.0
31	16 9 8.55	+6.517	-20 25 46.9	-18.22	19 27.4	31	17 30 40.89	+6.579	-23 8 10.0	-7.16	18 46.7
32	16 11 45.03	+6.523	-20 33 16.5	-18.56	19 26.0	32	17 33 18.72	+6.574	-23 10 57.2	-6.78	18 45.4
Day of the Month.						Day of the Month.					
0th. 5th. 10th. 15th. 20th. 25th. 30th.						4th. 9th. 14th. 19th. 24th. 29th.					
Semidiameter . . 2.5 2.7 2.7 2.8 2.8 2.9 3.0						Semidiameter . . 3.1 3.1 3.2 3.3 3.4 3.6					
Hor. Parallax . . 4.5 4.6 4.7 4.8 4.9 5.0 5.2						Hor. Parallax . . 5.3 5.5 5.6 5.8 6.0 6.2					
NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.											

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m		
1	17 28 2.95	+6.583	-23 5 13.7	-7.54	18 48.0	1	18 48 7.63	+6.950	-23 28 53.8	+3.97	18 5.8		
2	17 30 40.89	6.579	23 8 10.0	7.16	18 46.7	2	18 50 37.39	6.931	23 27 32.0	3.56	18 4.4		
3	17 33 18.72	6.574	23 10 57.2	6.78	18 45.4	3	18 53 6.69	6.911	23 26 3.4	3.84	18 2.9		
4	17 35 56.44	6.569	23 13 35.2	6.40	18 44.1	4	18 55 35.50	6.191	23 24 28.0	4.11	18 1.4		
5	17 38 34.04	6.564	23 16 4.1	6.02	18 42.8	5	18 58 3.82	6.170	23 23 46.0	4.38	18 0.0		
6	17 41 11.51	+6.559	-23 18 24.0	-5.64	18 41.5	6	19 0 31.64	+6.149	-23 20 57.6	+4.65	17 58.5		
7	17 43 48.85	6.553	23 20 34.8	5.96	18 40.2	7	19 2 58.05	6.197	23 19 2.8	4.99	17 57.0		
8	17 46 26.04	6.547	23 22 36.6	4.89	18 38.9	8	19 5 25.74	6.106	23 17 1.8	5.18	17 55.5		
9	17 49 3.08	6.541	23 24 29.5	4.59	18 37.6	9	19 7 52.00	6.063	23 14 54.7	5.43	17 54.0		
10	17 51 39.97	6.534	23 26 13.5	4.15	18 36.2	10	19 10 17.72	6.000	23 12 41.6	5.67	17 52.5		
11	17 54 16.69	+6.527	-23 27 48.7	-3.78	18 34.9	11	19 12 42.89	+6.037	-23 10 22.7	+5.91	17 50.9		
12	17 56 53.24	6.519	23 29 15.1	3.42	18 33.5	12	19 15 7.48	6.013	23 7 58.3	6.14	17 49.4		
13	17 59 29.60	6.511	23 30 32.7	3.06	18 32.2	13	19 17 31.50	5.988	23 5 28.3	6.37	17 47.8		
14	18 2 5.77	6.503	23 31 41.6	2.70	18 30.8	14	19 19 54.93	5.963	23 2 53.0	6.59	17 46.3		
15	18 4 41.73	6.494	23 32 41.9	2.34	18 29.5	15	19 22 17.74	5.937	23 0 12.5	6.80	17 44.7		
16	18 7 17.47	+6.485	-23 33 33.6	-1.98	18 28.1	16	19 24 39.91	+5.910	-23 57 27.0	+7.00	17 43.1		
17	18 9 52.99	6.475	23 34 16.7	1.63	18 26.8	17	19 27 1.44	5.883	23 54 36.6	7.20	17 41.5		
18	18 12 28.26	6.464	23 34 51.4	1.28	18 25.4	18	19 29 22.30	5.855	23 51 41.6	7.39	17 39.9		
19	18 15 3.26	6.453	23 35 17.7	0.93	18 24.1	19	19 31 42.46	5.826	23 48 42.2	7.57	17 38.3		
20	18 17 38.00	6.441	23 35 35.7	0.58	18 22.7	20	19 34 1.91	5.796	23 45 38.4	7.74	17 36.7		
21	18 20 12.44	+6.430	-23 35 45.5	-0.24	18 21.3	21	19 36 20.63	+5.765	-23 42 30.5	+7.91	17 35.1		
22	18 22 46.58	6.416	23 35 47.0	+0.10	18 19.9	22	19 38 38.61	5.733	23 39 18.7	8.07	17 33.4		
23	18 25 20.39	6.402	23 35 40.4	0.43	18 18.5	23	19 40 55.82	5.700	23 36 3.2	8.23	17 31.8		
24	18 27 53.87	6.387	23 35 25.9	0.76	18 17.1	24	19 43 12.22	5.666	23 32 44.3	8.36	17 30.1		
25	18 30 26.99	6.372	23 35 3.4	1.09	18 15.8	25	19 45 27.80	5.632	23 29 22.1	8.49	17 28.4		
26	18 32 59.74	+6.356	-23 34 33.2	+1.42	18 14.4	26	19 47 42.55	+5.597	-23 25 56.9	+8.61	17 26.7		
27	18 35 32.10	6.340	23 33 55.2	1.73	18 12.9	27	19 49 56.44	5.561	23 22 29.0	8.72	17 25.0		
28	18 38 4.06	6.323	23 33 9.7	2.04	18 11.5	28	19 52 9.46	5.524	23 18 58.4	8.82	17 23.2		
29	18 40 35.61	6.305	23 32 16.6	2.35	18 10.1	29	19 54 21.60	5.487	23 15 25.4	8.91	17 21.5		
30	18 43 6.73	6.287	23 31 16.2	2.66	18 8.7	30	19 56 32.84	5.449	23 11 50.4	9.00	17 19.7		
31	18 45 37.40	+6.269	-23 30 8.6	+2.97	18 7.3	31	19 58 43.16	+5.411	-23 8 13.4	+9.08	17 17.9		
32	18 48 7.63	+6.250	-23 28 53.8	+3.97	18 5.8	32	20 0 52.54	+5.373	-23 4 34.8	+9.15	17 16.1		
Day of the Month.						Day of the Month.							
	5th.	10th.	15th.	20th.	25th.	30th.		4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter ..	3'.7	3'.8	3'.9	4'.1	4'.2	4'.4	Semidiameter ..	4'.6	4'.8	5'.0	5'.2	5'.4	5'.7
Hor. Parallax ..	6.4	6.7	6.9	7.2	7.4	7.7	Hor. Parallax ..	8.0	8.4	8.8	9.2	9.6	10.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m		
1	19 58 43.16	+5.411	-22 8 13.4	+9.08	17 17.9	1	20 56 35.18	+3.730	-20 23 17.2	+5.88	16 13.2		
2	20 0 52.54	5.373	22 4 34.8	9.15	17 16.1	2	20 58 3.81	3.655	20 20 59.7	5.57	16 10.7		
3	20 3 0.98	5.338	22 0 54.6	9.21	17 14.3	3	20 59 30.64	3.579	20 18 49.7	5.25	16 8.2		
4	20 5 8.47	5.299	21 57 13.2	9.25	17 12.5	4	21 0 55.64	3.502	20 16 47.4	4.92	16 5.7		
5	20 7 14.98	5.261	21 53 30.9	9.28	17 10.7	5	21 2 18.76	3.424	20 14 53.2	4.58	16 3.1		
6	20 9 20.51	+5.209	-21 49 47.7	+9.31	17 8.8	6	21 3 39.98	+3.344	-20 13 7.4	+4.22	16 0.5		
7	20 11 25.02	5.167	21 46 4.0	9.33	17 6.9	7	21 4 59.28	3.269	20 11 30.3	3.85	15 57.8		
8	20 13 28.52	5.124	21 42 19.9	9.34	17 5.0	8	21 6 16.59	3.179	20 10 2.2	3.47	15 55.2		
9	20 15 30.97	5.080	21 38 35.8	9.34	17 3.1	9	21 7 31.86	3.094	20 8 43.5	3.08	15 52.5		
10	20 17 32.36	5.035	21 34 51.9	9.32	17 1.2	10	21 8 45.05	3.007	20 7 34.4	2.67	15 49.7		
11	20 19 32.66	+4.989	-21 31 8.4	+9.29	16 59.2	11	21 9 56.14	+2.917	-20 6 35.2	+2.25	15 46.9		
12	20 21 31.86	4.943	21 27 25.5	9.25	16 57.3	12	21 11 5.06	2.836	20 5 46.3	1.82	15 44.1		
13	20 23 29.94	4.895	21 23 43.6	9.20	16 55.3	13	21 12 11.77	2.733	20 5 7.8	1.38	15 41.3		
14	20 25 26.85	4.846	21 20 2.9	9.15	16 53.3	14	21 13 16.20	2.637	20 4 40.2	0.92	15 38.4		
15	20 27 22.56	4.796	21 16 23.8	9.09	16 51.3	15	21 14 18.30	2.539	20 4 23.9	+0.44	15 35.5		
16	20 29 17.04	+4.744	-21 12 46.5	+9.01	16 49.2	16	21 15 18.01	+2.436	-20 4 19.2	-0.05	15 32.5		
17	20 31 10.27	4.691	21 9 11.3	8.91	16 47.1	17	21 16 15.31	2.335	20 4 26.2	0.55	15 29.5		
18	20 33 2.21	4.637	21 5 38.5	8.80	16 45.0	18	21 17 10.11	2.230	20 4 45.4	1.06	15 26.5		
19	20 34 52.84	4.581	21 2 8.5	8.68	16 42.9	19	21 18 2.35	2.123	20 5 17.1	1.50	15 23.4		
20	20 36 42.11	4.524	20 58 41.5	8.55	16 40.8	20	21 18 51.99	2.013	20 6 1.5	2.12	15 20.2		
21	20 38 29.98	+4.465	-20 55 17.9	+8.40	16 38.6	21	21 19 38.99	+1.901	-20 6 58.8	-2.66	15 17.0		
22	20 40 16.43	4.405	20 51 58.1	8.24	16 36.5	22	21 20 23.30	1.788	20 8 9.1	3.21	15 13.8		
23	20 42 1.41	4.343	20 48 42.4	8.06	16 34.3	23	21 21 4.86	1.674	20 9 32.8	3.77	15 10.5		
24	20 43 44.89	4.280	20 45 31.1	7.87	16 32.0	24	21 21 43.64	1.558	20 11 9.9	4.33	15 7.2		
25	20 45 26.85	4.216	20 42 24.5	7.67	16 29.8	25	21 22 19.58	1.440	20 13 0.6	4.90	15 3.9		
26	20 47 7.25	+4.150	-20 39 23.0	+7.45	16 27.5	26	21 22 52.67	+1.319	-20 15 4.9	-5.47	15 0.4		
27	20 48 46.06	4.083	20 36 26.8	7.22	16 25.2	27	21 23 22.88	1.198	20 17 22.7	6.04	14 57.0		
28	20 50 23.24	4.015	20 33 36.4	6.98	16 22.8	28	21 23 50.18	1.076	20 19 54.1	6.61	14 53.5		
29	20 51 58.77	3.946	20 30 51.9	6.73	16 20.5	29	21 24 14.52	0.953	20 22 39.2	7.17	14 49.9		
30	20 53 32.63	3.875	20 28 13.6	6.46	16 18.1	30	21 24 35.89	0.829	20 25 37.9	7.73	14 46.3		
31	20 55 4.77	+3.803	-20 25 42.0	+6.18	16 15.6	31	21 24 54.28	+0.704	-20 28 50.1	-8.28	14 42.6		
32	20 56 35.18	+3.730	-20 23 17.2	+5.85	16 13.2	32	21 25 9.66	+0.577	-20 32 15.5	-8.83	14 38.9		
Day of the Month.						Day of the Month.							
	4th.	9th.	14th.	19th.	24th.	29th.		3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter ..	6.0	6.3	6.6	7.0	7.3	7.7	Semidiameter ..	8.1	8.6	9.0	9.5	10.0	10.6
Hor. Parallax ..	10.5	11.1	11.6	12.2	12.8	13.5	Hor. Parallax ..	14.2	15.0	15.8	16.7	17.6	18.5

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	21 24 54.28	+0.704	-20 28 50.1	-8.98	14 42.6	1	21 10 12.39	-2.647	-23 22 13.9	-14.48	12 25.4
2	21 25 9.66	0.577	20 32 15.5	8.83	14 38.9	2	21 9 8.42	2.681	23 27 58.6	14.00	12 20.4
3	21 25 21.99	0.450	20 35 54.0	9.37	14 35.1	3	21 8 3.72	2.707	23 33 32.8	13.68	12 15.3
4	21 25 31.27	0.323	20 39 45.5	9.91	14 31.3	4	21 6 58.48	2.736	23 38 55.4	13.22	12 10.3
5	21 25 37.50	0.195	20 43 49.8	10.43	14 27.5	5	21 5 52.88	2.736	23 44 5.7	12.71	12 5.3
6	21 25 40.64	+0.066	-20 48 6.5	-10.94	14 23.6	6	21 4 47.13	-2.739	-23 49 2.8	-12.15	12 0.3
7	21 25 40.69	-0.063	20 52 35.5	11.44	14 19.6	7	21 3 41.39	2.735	23 53 46.0	11.53	11 55.3
8	21 25 37.63	0.193	20 57 16.3	11.93	14 15.6	8	21 2 35.83	2.794	23 58 14.4	10.86	11 50.3
9	21 25 31.44	0.323	21 2 8.7	12.41	14 11.5	9	21 1 30.65	2.704	24 2 27.4	10.18	11 45.3
10	21 25 22.13	0.453	21 7 12.1	12.86	14 7.4	10	21 0 26.04	2.677	24 6 24.5	9.40	11 40.3
11	21 25 9.72	-0.528	-21 12 26.3	-13.39	14 3.3	11	20 59 22.17	-2.648	-24 10 5.0	-8.79	11 35.3
12	21 24 54.20	0.711	21 17 50.7	13.70	13 59.1	12	20 58 19.23	2.600	24 13 28.3	8.06	11 30.4
13	21 24 35.56	0.841	21 23 24.9	14.10	13 54.8	13	20 57 17.38	2.551	24 16 34.2	7.37	11 25.4
14	21 24 13.84	0.969	21 29 8.2	14.48	13 50.5	14	20 56 16.80	2.494	24 19 22.1	6.63	11 20.4
15	21 23 49.04	1.096	21 35 0.1	14.82	13 46.1	15	20 55 17.67	2.430	24 21 51.8	5.87	11 15.5
16	21 23 21.21	-1.222	-21 40 59.8	-15.13	13 41.7	16	20 54 20.18	-2.358	-24 24 2.8	-5.09	11 10.7
17	21 22 50.40	1.345	21 47 6.7	15.41	13 37.2	17	20 53 24.48	2.279	24 25 54.9	4.29	11 5.8
18	21 22 16.66	1.468	21 53 19.9	15.68	13 32.7	18	20 52 30.76	2.194	24 27 28.0	3.48	11 1.0
19	21 21 40.04	1.584	21 59 38.7	15.88	13 28.1	19	20 51 39.17	2.103	24 28 41.9	2.67	10 56.3
20	21 21 0.62	1.699	22 6 2.0	16.06	13 23.5	20	20 50 49.84	2.005	24 29 36.4	1.86	10 51.6
21	21 20 18.47	-1.810	-22 12 29.0	-16.19	13 18.9	21	20 50 2.93	-1.901	-24 30 11.5	-1.05	10 46.9
22	21 19 33.72	1.917	22 18 58.6	16.37	13 14.2	22	20 49 18.60	1.791	24 30 27.0	-0.94	10 42.2
23	21 18 46.47	2.018	22 25 29.8	16.51	13 9.4	23	20 48 36.96	1.675	24 30 23.1	+0.56	10 37.6
24	21 17 56.55	2.115	22 32 1.4	16.50	13 4.5	24	20 47 58.15	1.556	24 29 59.9	1.36	10 33.1
25	21 17 4.97	2.206	22 38 32.4	16.34	12 59.8	25	20 47 22.26	1.439	24 29 17.4	2.15	10 28.6
26	21 16 11.01	-2.286	-22 45 1.6	-16.13	12 55.0	26	20 46 49.40	-1.305	-24 28 15.8	+2.94	10 24.1
27	21 15 15.13	2.365	22 51 27.6	15.96	12 50.1	27	20 46 19.63	1.174	24 26 55.3	3.73	10 19.7
28	21 14 17.48	2.436	22 57 49.6	15.74	12 45.2	28	20 45 53.06	1.040	24 25 16.2	4.51	10 15.3
29	21 13 18.19	2.501	23 4 6.4	15.47	12 40.3	29	20 45 29.72	0.904	24 23 18.7	5.27	10 11.0
30	21 12 17.46	2.557	23 10 16.8	15.17	12 35.4	30	20 45 9.65	0.767	24 21 3.3	6.01	10 6.8
31	21 11 15.46	-2.606	-23 16 19.7	-14.84	12 30.4	31	20 44 52.89	-0.629	-24 18 30.0	+6.74	10 2.6
32	21 10 12.39	-2.647	-23 22 13.9	-14.48	12 25.4	32	20 44 39.46	-0.490	-24 15 39.5	+7.46	9 58.5
Day of the Month.						Day of the Month.					
3d. 8th. 13th. 18th. 23d. 28th.						3d. 7th. 12th. 17th. 22d. 27th.					
Semidiameter . . . 11.1 11.6 12.1 12.5 12.9 13.2						Semidiameter 13.3 13.4 13.3 13.1 12.8 12.4					
Hor. Parallax . . . 19.5 20.4 21.2 22.0 22.6 23.1						Hor. Parallax 23.3 23.4 23.2 23.0 22.4 21.8					

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.	
1	h m s	s	° ' "	"	h m	1	h m s	s	° ' "	"	h m
2	30 44 39.46	-0.490	24 15 39.5	+7.46	9 58.5	2	21 2 20.18	+3.184	-21 2 2.7	+23.35	8 18.7
3	20 44 29.39	0.349	24 12 32.0	8.16	9 54.4	3	21 3 37.66	3.973	20 52 37.6	23.75	8 16.1
4	20 44 22.70	0.309	24 9 7.7	8.84	9 50.4	4	21 4 57.25	3.350	20 41 2.9	24.15	8 13.5
5	20 44 19.37	-0.069	24 5 27.2	9.51	9 46.5	5	21 6 18.88	3.443	20 33 18.8	24.54	8 10.9
6	20 44 19.38	+0.070	24 1 30.9	10.17	9 42.5	6	21 7 42.49	3.594	20 23 25.5	24.92	8 8.4
7	20 44 22.73	+0.309	-23 57 19.1	+10.81	9 38.7	7	21 9 8.02	+3.693	-20 13 23.0	+25.39	8 5.9
8	20 44 29.41	0.347	23 52 52.1	11.44	9 34.9	8	21 10 35.40	3.679	20 3 11.5	25.05	8 3.4
9	20 44 39.39	0.484	23 48 10.2	12.05	9 31.1	9	21 12 4.60	3.753	19 52 51.2	25.63	8 0.9
10	20 44 52.64	0.620	23 43 13.9	12.64	9 27.4	10	21 13 35.55	3.895	19 42 22.1	26.20	7 58.5
11	20 45 9.13	0.755	23 38 3.5	13.22	9 23.8	11	21 15 8.21	3.995	19 31 44.3	26.75	7 56.1
12	20 45 26.82	+0.888	-23 32 39.3	+13.79	9 20.2	12	21 16 42.51	+3.983	-19 20 57.9	+27.11	7 53.8
13	20 45 51.70	1.030	23 27 1.6	14.35	9 16.7	13	21 18 18.42	4.029	19 10 3.0	27.46	7 51.5
14	20 46 17.77	1.151	23 21 10.6	14.90	9 13.3	14	21 19 55.88	4.093	18 58 59.7	27.81	7 49.2
15	20 46 46.96	1.261	23 15 6.5	15.44	9 9.8	15	21 21 34.87	4.156	18 47 48.1	28.16	7 46.9
16	20 47 19.25	1.409	23 8 49.7	15.97	9 6.4	16	21 23 15.35	4.218	18 36 28.1	28.51	7 44.6
17	20 47 54.59	+1.535	-23 2 20.3	+16.49	9 3.1	17	21 24 57.28	+4.278	-18 24 59.8	+28.85	7 42.4
18	20 48 32.94	1.680	22 55 38.6	16.99	8 59.8	18	21 26 40.62	4.335	18 13 23.4	29.19	7 40.2
19	20 49 14.28	1.784	22 48 44.7	17.49	8 56.5	19	21 28 25.33	4.390	18 1 38.8	29.53	7 38.0
20	20 49 58.55	1.906	22 41 39.0	17.98	8 53.3	20	21 30 11.36	4.444	17 49 45.9	29.87	7 35.8
21	20 50 45.71	2.025	22 34 21.5	18.47	8 50.2	21	21 31 58.68	4.497	17 37 44.8	30.20	7 33.7
22	20 51 35.73	+2.143	-22 26 52.4	+18.95	8 47.1	22	21 33 47.26	+4.549	-17 25 36.0	+30.53	7 31.5
23	20 52 28.54	2.257	22 19 11.9	19.43	8 44.1	23	21 35 37.05	4.599	17 13 19.4	30.85	7 29.4
24	20 53 24.09	2.370	22 11 20.2	19.88	8 41.1	24	21 37 28.03	4.647	17 0 54.8	31.18	7 27.4
25	20 54 22.34	2.482	22 3 17.5	20.34	8 38.2	25	21 39 20.15	4.694	16 48 22.4	31.50	7 25.3
26	20 55 23.22	2.591	21 55 3.8	20.79	8 35.3	26	21 41 13.35	4.739	16 35 42.5	31.82	7 23.3
27	20 56 26.67	+2.697	-21 46 39.4	+21.23	8 32.4	27	21 43 7.62	+4.782	-16 22 55.1	+32.13	7 21.2
28	20 57 32.63	2.799	21 38 4.5	21.67	8 29.6	28	21 45 2.89	4.824	16 10 0.2	32.44	7 19.2
29	20 58 41.02	2.899	21 29 19.2	22.10	8 26.8	29	21 46 59.15	4.864	15 56 58.0	32.75	7 17.2
30	20 59 51.79	2.997	21 20 23.7	22.52	8 24.0	30	21 48 56.37	4.903	15 43 48.5	33.05	7 15.2
31	21 1 4.87	3.093	21 11 18.1	22.94	8 21.3	31	21 50 54.49	4.940	15 30 32.0	33.35	7 13.3
32	21 2 20.18	+3.184	-21 2 2.7	+23.35	8 18.7	32	21 52 53.47	+4.975	-15 17 8.6	+33.63	7 11.3
33	21 3 37.66	+3.273	-20 52 37.6	+23.75	8 16.1	33	21 54 53.26	+5.009	-15 3 38.4	+33.91	7 9.4
Day of the Month.						Day of the Month.					
1st.	6th.	11th.	16th.	21st.	26th.	1st.	6th.	11th.	16th.	21st.	26th.
Semidiameter . .	11.9	11.5	11.0	10.5	10.0	Semidiameter . .	9.0	8.6	8.2	7.8	7.4
Hor. Parallax . .	21.0	20.2	19.3	18.4	17.5	Hor. Parallax . .	15.9	15.1	14.4	13.7	13.0

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
1	h m s 21 54 53.26	s +5.000	° ' " -15 3 38.4	" +33.91	h m 7 9.4	1	h m s 22 59 21.79	s +5.636	° ' " -7 34 21.9	" +40.38	h m 6 15.7			
2	21 56 53.85	5.041	14 50 1.5	34.18	7 7.4	2	23 1 37.20	5.647	7 18 12.7	40.45	6 14.0			
3	21 58 55.21	5.072	14 36 18.1	34.45	7 5.5	3	23 3 52.88	5.658	7 2 0.3	40.57	6 12.4			
4	22 0 57.32	5.103	14 22 28.1	34.71	7 3.6	4	23 6 8.81	5.669	6 45 44.9	40.69	6 10.7			
5	22 3 0.14	5.131	14 8 31.9	34.97	7 1.7	5	23 8 25.01	5.679	6 29 26.6	40.81	6 9.0			
6	22 5 3.62	+5.159	-13 54 29.5	+35.23	6 59.9	6	23 10 41.45	+5.690	-6 13 5.6	+40.93	6 7.3			
7	22 7 7.77	5.186	-13 40 21.0	35.48	6 58.0	7	23 12 58.14	5.700	5 56 41.8	41.04	6 5.7			
8	22 9 12.56	5.212	13 26 6.4	35.73	6 56.1	8	23 15 15.07	5.710	5 40 15.6	41.14	6 4.0			
9	22 11 17.97	5.237	13 11 45.9	35.97	6 54.3	9	23 17 32.23	5.720	5 23 46.9	41.24	6 2.4			
10	22 13 23.97	5.262	12 57 19.6	36.21	6 52.4	10	23 19 49.63	5.730	5 7 16.0	41.34	6 0.7			
11	22 15 30.54	+5.286	-12 42 47.6	+36.45	6 50.6	11	23 22 7.25	+5.739	-4 50 42.8	+41.43	5 59.1			
12	22 17 37.69	5.309	12 28 9.9	36.68	6 48.8	12	23 24 25.11	5.749	4 34 7.5	41.51	5 57.4			
13	22 19 45.39	5.332	12 13 26.6	36.91	6 47.0	13	23 26 43.20	5.759	4 17 30.2	41.59	5 55.8			
14	22 21 53.62	5.354	11 58 37.8	37.14	6 45.2	14	23 29 1.52	5.768	4 0 50.9	41.67	5 54.1			
15	22 24 2.37	5.375	11 43 43.5	37.37	6 43.4	15	23 31 20.07	5.778	3 44 9.8	41.75	5 52.5			
16	22 26 11.63	+5.396	-11 28 44.0	+37.59	6 41.6	16	23 33 38.85	+5.788	-3 27 27.0	+41.83	5 50.9			
17	22 28 21.39	5.417	11 13 39.2	37.81	6 39.8	17	23 35 57.85	5.797	3 10 42.6	41.88	5 49.3			
18	22 30 31.64	5.437	10 58 29.1	38.02	6 38.1	18	23 38 17.09	5.806	2 53 56.7	41.94	5 47.7			
19	22 32 42.35	5.456	10 43 14.0	38.23	6 36.3	19	23 40 36.54	5.815	2 37 9.4	41.99	5 46.0			
20	22 34 53.51	5.474	10 27 54.0	38.44	6 34.6	20	23 42 56.21	5.824	2 20 20.9	42.04	5 44.4			
21	22 37 5.11	+5.492	-10 12 29.1	+38.64	6 32.8	21	23 45 16.10	+5.833	-2 3 31.3	+42.09	5 42.8			
22	22 39 17.13	5.509	9 56 59.4	38.83	6 31.1	22	23 47 36.20	5.842	1 46 40.8	42.13	5 41.2			
23	22 41 29.56	5.526	9 41 25.0	39.02	6 29.3	23	23 49 56.51	5.850	1 29 49.4	42.16	5 39.6			
24	22 43 42.39	5.542	9 25 46.2	39.20	6 27.6	24	23 52 17.02	5.859	1 12 57.3	42.18	5 38.0			
25	22 45 55.59	5.557	9 10 3.1	39.38	6 25.9	25	23 54 37.73	5.867	0 56 4.8	42.20	5 36.4			
26	22 48 9.15	+5.572	-8 54 15.8	+39.56	6 24.2	26	23 56 58.64	+5.875	-0 39 11.9	+42.21	5 34.8			
27	22 50 23.05	5.586	8 38 24.5	39.73	6 22.5	27	23 59 19.74	5.883	0 22 18.7	42.21	5 33.2			
28	22 52 37.27	5.599	8 22 29.3	39.88	6 20.8	28	0 1 41.03	5.891	-0 5 25.5	42.21	5 31.6			
29	22 54 51.81	5.612	8 6 30.3	40.03	6 19.1	29	0 4 2.51	5.899	+0 11 27.6	42.20	5 30.1			
30	22 57 6.66	5.624	7 50 27.8	40.18	6 17.4	30	0 6 24.16	5.907	0 28 20.5	42.19	5 28.5			
31	22 59 21.79	+5.636	-7 34 21.9	+40.38	6 15.7	31	0 8 46.00	+5.914	+0 45 13.0	+42.17	5 26.9			
32	23 1 37.20	+5.647	-7 18 12.7	+40.45	6 14.0	32	0 11 8.02	+5.921	+1 2 4.9	+42.15	5 25.3			
Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	35th.
Semidiameter . .	6.5	6.2	5.9	5.6	5.4	5.2	Semidiameter . .	5.0	4.8	4.6	4.4	4.3	4.1	4.0
Hor. Parallax . .	11.3	10.8	10.3	9.9	9.5	9.1	Hor. Parallax . .	8.8	8.4	8.1	7.8	7.5	7.2	7.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	23 1 12.84	+1.563	-7 33 13.7	+10.12	4 18.2	1	23 23 33.53	+1.998	-5 8 14.7	+13.01	2 38.5
2	23 1 50.57	1.581	7 29 9.4	10.94	4 14.9	2	23 24 21.60	2.008	5 3 1.7	13.08	2 35.3
3	23 2 28.73	1.599	7 25 2.2	10.36	4 11.6	3	23 25 9.90	2.017	4 57 47.2	13.14	2 32.2
4	23 3 7.33	1.617	7 20 52.2	10.47	4 8.3	4	23 25 58.43	2.026	4 52 31.1	13.20	2 29.1
5	23 3 46.34	1.634	7 16 39.5	10.58	4 5.0	5	23 26 47.17	2.035	4 47 13.6	13.26	2 26.0
6	23 4 25.77	+1.651	-7 12 24.2	+10.69	4 1.7	6	23 27 36.13	+2.044	-4 41 54.5	+13.32	2 22.9
7	23 5 5.60	1.668	7 8 6.3	10.80	3 58.4	7	23 28 25.30	2.053	4 36 34.0	13.38	2 19.8
8	23 5 45.84	1.684	7 3 45.7	10.91	3 55.2	8	23 29 14.66	2.061	4 31 12.1	13.44	2 16.7
9	23 6 26.46	1.700	6 59 22.6	11.02	3 51.9	9	23 30 4.22	2.069	4 25 48.9	13.49	2 13.6
10	23 7 7.47	1.716	6 54 57.0	11.12	3 48.7	10	23 30 53.97	2.077	4 20 24.4	13.54	2 10.5
11	23 7 48.85	+1.732	-6 50 28.9	+11.22	3 45.4	11	23 31 43.91	+2.085	-4 14 58.7	+13.59	2 7.4
12	23 8 30.60	1.747	6 45 58.3	11.32	3 42.2	12	23 32 34.02	2.092	4 9 31.8	13.64	2 4.3
13	23 9 12.72	1.763	6 41 25.4	11.42	3 38.9	13	23 33 24.31	2.099	4 4 3.7	13.69	2 1.2
14	23 9 55.18	1.777	6 36 50.2	11.52	3 35.7	14	23 34 14.77	2.106	3 58 34.4	13.74	1 58.1
15	23 10 38.00	1.791	6 32 12.6	11.62	3 32.5	15	23 35 5.39	2.113	3 53 4.0	13.79	1 55.0
16	23 11 21.15	+1.806	-6 27 32.8	+11.71	3 29.3	16	23 35 56.18	+2.120	-3 47 32.5	+13.84	1 51.9
17	23 12 4.65	1.819	6 22 50.7	11.80	3 26.1	17	23 36 47.12	2.126	3 42 0.0	13.88	1 48.8
18	23 12 48.48	1.833	6 18 6.4	11.89	3 22.9	18	23 37 38.21	2.132	3 36 26.4	13.92	1 45.7
19	23 13 32.63	1.846	6 13 20.0	11.98	3 19.7	19	23 38 29.46	2.138	3 30 51.8	13.96	1 42.6
20	23 14 17.10	1.859	6 8 31.4	12.07	3 16.5	20	23 39 20.84	2.144	3 25 16.3	14.00	1 39.5
21	23 15 1.89	+1.873	-6 3 40.7	+12.16	3 13.3	21	23 40 12.36	+2.150	-3 19 39.9	+14.04	1 36.5
22	23 15 46.98	1.885	5 58 47.9	12.24	3 10.1	22	23 41 4.02	2.155	3 14 2.6	14.08	1 33.4
23	23 16 32.38	1.898	5 53 53.1	12.33	3 6.9	23	23 41 55.81	2.160	3 8 24.4	14.11	1 30.3
24	23 17 18.07	1.910	5 48 56.3	12.41	3 3.8	24	23 42 47.71	2.165	3 2 45.4	14.14	1 27.2
25	23 18 4.05	1.922	5 43 57.5	12.49	3 0.6	25	23 43 39.72	2.170	2 57 5.6	14.17	1 24.2
26	23 18 50.32	+1.934	-5 38 56.8	+12.57	2 57.4	26	23 44 31.86	+2.175	-2 51 25.1	+14.20	1 21.1
27	23 19 36.86	1.945	5 33 54.3	12.65	2 54.2	27	23 45 24.12	2.179	2 45 43.9	14.23	1 18.0
28	23 20 23.68	1.956	5 28 49.9	12.72	2 51.1	28	23 46 16.47	2.183	2 40 2.1	14.26	1 14.9
29	23 21 10.76	1.967	5 23 43.7	12.80	2 47.9	29	23 47 8.91	2.187	2 34 19.6	14.28	1 11.9
30	23 21 58.10	1.978	5 18 35.7	12.87	2 44.8	30	23 48 1.45	2.191	2 28 36.6	14.30	1 8.9
31	23 22 45.69	+1.988	-5 13 26.0	+12.94	2 41.6	31	23 48 54.07	+2.194	-2 22 53.0	+14.32	1 5.8
32	23 23 33.53	+1.998	-5 8 14.7	+13.01	2 38.5	32	23 49 46.77	+2.197	-2 17 9.0	+14.34	1 2.8
Day of the Month.						Day of the Month.					
Polar Semidiameter . .						Polar Semidiameter . .					
Horizontal Parallax . .						Horizontal Parallax . .					

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	23 48 1.45	+2.191	-2 28 36.6	+14.30	1 8.9	1	0 15 30.44	+2.214	+0 30 0.7	+14.38	23 31.3
2	23 48 54.07	2.194	2 22 53.0	14.32	1 5.8	2	0 16 23.55	2.212	0 35 43.1	14.36	23 28.2
3	23 49 46.77	2.197	2 17 9.0	14.34	1 2.8	3	0 17 16.61	2.209	0 41 24.8	14.23	23 25.2
4	23 50 39.54	2.200	2 11 24.5	14.36	0 59.7	4	0 18 9.60	2.207	0 47 5.9	14.20	23 22.1
5	23 51 32.39	2.203	2 5 39.6	14.38	0 56.7	5	0 19 2.53	2.204	0 52 46.3	14.17	23 19.1
6	23 52 25.30	+2.206	-1 59 54.4	+14.39	0 53.6	6	0 19 55.40	+2.201	+0 58 26.0	+14.14	23 16.0
7	23 53 18.27	2.208	1 54 8.8	14.40	0 50.6	7	0 20 48.19	2.198	1 4 5.0	14.11	23 13.0
8	23 54 11.30	2.210	1 48 22.9	14.41	0 47.5	8	0 21 40.91	2.195	1 9 43.2	14.08	23 9.9
9	23 55 4.38	2.212	1 42 36.8	14.42	0 44.5	9	0 22 33.54	2.192	1 15 20.6	14.04	23 6.9
10	23 55 57.50	2.214	1 36 50.4	14.43	0 41.4	10	0 23 26.10	2.189	1 20 57.1	14.01	23 3.8
11	23 56 50.67	+2.216	-1 31 3.9	+14.44	0 38.4	11	0 24 18.57	+2.185	+1 26 32.8	+13.97	23 0.8
12	23 57 43.88	2.218	1 25 17.2	14.44	0 35.3	12	0 25 10.95	2.181	1 32 7.6	13.93	22 57.7
13	23 58 37.13	2.219	1 19 30.4	14.45	0 32.3	13	0 26 3.24	2.177	1 37 41.5	13.89	22 54.7
14	23 59 30.41	2.221	1 13 43.5	14.45	0 29.2	14	0 26 55.43	2.173	1 43 14.4	13.85	22 51.6
15	0 0 23.72	2.222	1 7 56.5	14.46	0 26.2	15	0 27 47.52	2.168	1 48 46.4	13.81	22 48.5
16	0 1 17.05	+2.223	-1 2 9.5	+14.46	0 23.1	16	0 28 39.51	+2.164	+1 54 17.3	+13.77	22 45.4
17	0 2 10.40	2.224	0 56 22.5	14.46	0 20.1	17	0 29 31.39	2.159	1 59 47.2	13.73	22 42.4
18	0 3 3.77	2.224	0 50 35.5	14.45	0 17.0	18	0 30 23.16	2.154	2 5 16.1	13.68	22 39.3
19	0 3 57.16	2.225	0 44 48.5	14.45	0 14.0	19	0 31 14.81	2.149	2 10 43.9	13.64	22 36.2
20	0 4 50.56	2.225	0 39 1.7	14.45	0 10.9	20	0 32 6.34	2.144	2 16 10.6	13.59	22 33.1
21	0 5 43.96	+2.225	-0 33 15.0	+14.44	0 7.9	21	0 32 57.75	+2.139	+2 21 36.0	+13.54	22 30.0
22	0 6 37.36	2.225	0 27 28.4	14.44	0 4.8	22	0 33 49.03	2.134	2 27 0.3	13.49	22 26.9
23	0 7 30.76	2.225	0 21 42.0	14.43	0 1.9	23	0 34 40.17	2.128	2 32 23.3	13.44	22 23.8
24	0 8 24.15	2.224	0 15 55.8	14.42	23 55.7	24	0 35 31.17	2.122	2 37 45.1	13.38	22 20.7
25	0 9 17.53	2.224	0 10 9.9	14.41	23 52.6	25	0 36 22.03	2.116	2 43 5.5	13.33	22 17.7
26	0 10 10.89	+2.223	-0 4 24.3	+14.40	23 49.6	26	0 37 12.74	+2.110	+2 48 24.6	+13.27	22 14.6
27	0 11 4.23	2.222	+0 1 20.9	14.38	23 46.5	27	0 38 3.29	2.103	2 53 42.4	13.21	22 11.5
28	0 11 57.55	2.221	0 7 5.8	14.36	23 43.5	28	0 38 53.69	2.096	2 58 58.7	13.15	22 8.4
29	0 12 50.83	2.220	0 12 50.3	14.34	23 40.4	29	0 39 43.91	2.089	3 4 13.6	13.09	22 5.3
30	0 13 44.08	2.218	0 18 34.3	14.32	23 37.4	30	0 40 33.96	2.082	3 9 26.9	13.03	22 2.2
31	0 14 37.28	+2.216	+0 24 17.8	+14.30	23 34.3	31	0 41 23.84	+2.075	+3 14 38.8	+12.97	21 59.1
32	0 15 30.44	+2.214	+0 30 0.7	+14.28	23 31.3	32	0 42 13.54	+2.067	+3 19 49.0	+12.90	21 56.0
Day of the Month.						Day of the Month.					
Polar Semidiameter . .						Polar Semidiameter . .					
Horizontal Parallax . .						Horizontal Parallax . .					

GREENWICH MEAN TIME.

MAY.						JUNE.						
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.		
	^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m	
1	0 41 23.84	+2.075	+3 14 38.8	+12.97	21 59.1	1	1 5 18.28	+1.747	+5 40 24.4	+10.34	20 20.8	
2	0 42 13.54	2.067	3 19 49.0	12.90	21 56.0	2	1 6 0.04	1.733	5 44 31.2	10.23	20 17.6	
3	0 43 3.05	2.059	3 24 57.7	12.83	21 52.9	3	1 6 41.45	1.719	5 48 35.5	10.12	20 14.3	
4	0 43 52.38	2.051	3 30 4.7	12.76	21 49.8	4	1 7 22.51	1.704	5 52 37.1	10.01	20 11.1	
5	0 44 41.51	2.043	3 35 10.1	12.69	21 46.7	5	1 8 3.21	1.689	5 56 36.2	9.90	20 7.8	
6	0 45 30.45	+2.035	+3 40 13.8	+12.62	21 43.5	6	1 8 43.56	+1.674	+6 0 32.7	+ 9.79	20 4.6	
7	0 46 19.17	2.027	3 45 15.7	12.55	21 40.4	7	1 9 23.54	1.659	6 4 26.4	9.68	20 1.3	
8	0 47 7.70	2.018	3 50 16.0	12.48	21 37.3	8	1 10 3.15	1.643	6 8 17.5	9.57	19 58.0	
9	0 47 56.02	2.009	3 55 14.5	12.40	21 34.1	9	1 10 42.39	1.627	6 12 5.8	9.46	19 54.7	
10	0 48 44.12	2.000	4 0 11.2	12.33	21 30.9	10	1 11 21.24	1.611	6 15 51.4	9.35	19 51.4	
11	0 49 32.01	+1.991	+4 5 6.0	+12.25	21 27.8	11	1 11 59.71	+1.595	+6 19 34.3	+ 9.23	19 48.1	
12	0 50 19.67	1.981	4 9 59.1	12.17	21 24.6	12	1 12 37.79	1.578	6 23 14.3	9.11	19 44.8	
13	0 51 7.11	1.973	4 14 50.2	12.09	21 21.5	13	1 13 15.47	1.561	6 26 51.5	8.99	19 41.5	
14	0 51 54.31	1.963	4 19 39.5	12.01	21 18.3	14	1 13 52.74	1.544	6 30 25.9	8.87	19 38.2	
15	0 52 41.28	1.953	4 24 26.8	11.93	21 15.2	15	1 14 29.60	1.527	6 33 57.4	8.75	19 34.8	
16	0 53 28.01	+1.943	+4 29 12.2	+11.85	21 12.0	16	1 15 6.04	+1.510	+6 37 25.9	+ 8.63	19 31.5	
17	0 54 14.49	1.933	4 33 55.6	11.77	21 8.9	17	1 15 42.06	1.492	6 40 51.5	8.50	19 28.2	
18	0 55 0.72	1.921	4 38 37.0	11.68	21 5.7	18	1 16 17.64	1.474	6 44 14.1	8.38	19 24.9	
19	0 55 46.70	1.910	4 43 16.3	11.60	21 2.6	19	1 16 52.78	1.455	6 47 33.6	8.25	19 21.5	
20	0 56 32.41	1.899	4 47 53.6	11.51	20 59.4	20	1 17 27.48	1.436	6 50 50.1	8.12	19 18.2	
21	0 57 17.85	+1.888	+4 52 28.7	+11.42	20 56.2	21	1 18 1.72	+1.417	+6 54 3.5	+ 7.99	19 14.8	
22	0 58 3.02	1.876	4 57 1.7	11.33	20 53.0	22	1 18 35.50	1.398	6 57 13.7	7.86	19 11.4	
23	0 58 47.91	1.864	5 1 32.4	11.24	20 49.8	23	1 19 8.81	1.378	7 0 20.7	7.73	19 8.0	
24	0 59 32.51	1.852	5 6 1.0	11.14	20 46.6	24	1 19 41.65	1.358	7 3 24.5	7.60	19 4.6	
25	1 0 16.82	1.840	5 10 27.2	11.05	20 43.4	25	1 20 13.99	1.338	7 6 25.0	7.46	19 1.2	
26	1 1 0.83	+1.828	+5 14 51.2	+10.95	20 40.2	26	1 20 45.85	+1.317	+7 9 22.3	+ 7.32	18 57.8	
27	1 1 44.54	1.815	5 19 12.8	10.85	20 37.0	27	1 21 17.21	1.296	7 12 16.2	7.18	18 54.4	
28	1 2 27.93	1.803	5 23 32.0	10.75	20 33.8	28	1 21 48.07	1.275	7 15 6.8	7.04	18 50.9	
29	1 3 11.01	1.789	5 27 48.8	10.65	20 30.6	29	1 22 18.42	1.254	7 17 54.1	6.90	18 47.5	
30	1 3 53.76	1.775	5 32 3.1	10.55	20 27.3	30	1 22 48.25	1.232	7 20 37.9	6.76	18 44.0	
31	1 4 36.19	+1.761	+5 36 15.0	+10.45	20 24.1	31	1 23 17.55	+1.210	+7 23 18.3	+ 6.62	18 40.6	
32	1 5 18.28	+1.747	+5 40 24.4	+10.34	20 20.8	32	1 23 46.33	+1.188	+7 25 55.2	+ 6.47	18 37.1	
Day of the Month.			7th.	15th.	23d.	31st.	Day of the Month.			8th.	16th.	24th.
Polar Semidiameter . .			16'.4	16'.6	16'.9	17'.3	Polar Semidiameter			17'.5	17'.8	18'.3
Horizontal Parallax . .			1.5	1.6	1.6	1.6	Horizontal Parallax			1.6	1.7	1.7

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	1 23 17.55	+1.210	+7 23 18.3	+0.02	18 40.6	1	1 33 32.17	+0.399	+8 15 27.2	+1.02	16 48.6
2	1 23 46.33	1.188	7 25 55.2	0.47	18 37.1	2	1 33 41.41	0.370	8 16 4.1	1.45	16 44.9
3	1 24 14.57	1.166	7 28 28.6	0.33	18 33.7	3	1 33 49.91	0.340	8 16 36.7	1.28	16 41.1
4	1 24 42.28	1.143	7 30 58.6	0.18	18 30.2	4	1 33 57.71	0.310	8 17 5.1	1.10	16 37.2
5	1 25 9.43	1.120	7 33 25.0	0.03	18 26.7	5	1 34 4.78	0.280	8 17 29.3	0.92	16 33.4
6	1 25 36.03	+1.097	+7 35 47.9	+0.88	18 23.2	6	1 34 11.12	+0.250	+8 17 49.2	+0.75	16 29.6
7	1 26 2.08	1.074	7 38 7.2	0.73	18 19.7	7	1 34 16.73	0.219	8 18 4.9	0.57	16 25.7
8	1 26 27.56	1.050	7 40 23.0	0.58	18 16.2	8	1 34 21.60	0.188	8 18 16.4	0.39	16 21.9
9	1 26 52.47	1.026	7 42 35.1	0.43	18 12.7	9	1 34 25.74	0.157	8 18 23.6	0.21	16 18.0
10	1 27 16.80	1.002	7 44 43.6	0.28	18 9.1	10	1 34 29.14	0.126	8 18 26.6	+0.03	16 14.1
11	1 27 40.55	+0.977	+7 46 48.4	+0.12	18 5.6	11	1 34 31.80	+0.095	+8 18 25.2	-0.15	16 10.2
12	1 28 3.71	0.953	7 48 49.5	0.97	18 2.0	12	1 34 33.71	0.064	8 18 19.5	0.33	16 6.3
13	1 28 26.27	0.927	7 50 46.8	0.81	17 58.5	13	1 34 34.87	0.033	8 18 9.5	0.51	16 2.4
14	1 28 48.22	0.902	7 52 40.4	0.65	17 54.9	14	1 34 35.28	+0.002	8 17 55.2	0.69	15 58.5
15	1 29 9.57	0.876	7 54 30.2	0.49	17 51.3	15	1 34 34.94	-0.029	8 17 36.6	0.87	15 54.5
16	1 29 30.29	+0.850	+7 56 16.2	+0.33	17 47.7	16	1 34 33.84	-0.061	+8 17 13.7	-1.04	15 50.6
17	1 29 50.39	0.824	7 57 58.3	0.17	17 44.1	17	1 34 31.99	0.093	8 16 46.5	1.22	15 46.6
18	1 30 9.85	0.798	7 59 36.5	0.01	17 40.5	18	1 34 29.38	0.125	8 16 15.0	1.40	15 42.6
19	1 30 28.68	0.771	8 1 10.8	0.85	17 36.8	19	1 34 26.01	0.156	8 15 39.2	1.58	15 38.6
20	1 30 46.85	0.744	8 2 41.1	0.68	17 33.2	20	1 34 21.88	0.188	8 14 59.1	1.76	15 34.6
21	1 31 4.37	+0.716	+8 4 7.5	+0.52	17 29.6	21	1 34 17.00	-0.219	+8 14 14.6	-1.94	15 30.6
22	1 31 21.23	0.688	8 5 29.8	0.35	17 25.9	22	1 34 11.37	0.250	8 13 25.9	2.12	15 26.6
23	1 31 37.41	0.660	8 6 48.1	0.18	17 22.2	23	1 34 4.99	0.282	8 12 32.9	2.30	15 22.5
24	1 31 52.93	0.632	8 8 2.3	0.01	17 18.5	24	1 33 57.85	0.313	8 11 35.6	2.47	15 18.4
25	1 32 7.77	0.604	8 9 12.4	0.84	17 14.8	25	1 33 49.97	0.344	8 10 34.2	2.64	15 14.4
26	1 32 21.92	+0.575	+8 10 18.4	+0.66	17 11.1	26	1 33 41.35	-0.375	+8 9 28.6	-2.22	15 10.3
27	1 32 35.38	0.546	8 11 20.3	0.49	17 7.4	27	1 33 32.00	0.405	8 8 18.8	2.39	15 6.2
28	1 32 48.14	0.517	8 12 18.0	0.32	17 3.7	28	1 33 21.91	0.435	8 7 4.9	2.16	15 2.1
29	1 33 0.21	0.488	8 13 11.6	0.14	17 0.0	29	1 33 11.10	0.465	8 5 47.0	2.33	14 58.0
30	1 33 11.57	0.459	8 14 1.0	1.97	16 56.2	30	1 32 59.57	0.495	8 4 25.0	2.50	14 53.9
31	1 33 22.23	+0.429	+8 14 46.2	+1.80	16 52.4	31	1 32 47.33	-0.525	+8 2 50.1	-3.66	14 49.7
32	1 33 32.17	+0.399	+8 15 27.2	+1.02	16 48.6	32	1 32 34.38	-0.554	+8 1 29.2	-3.83	14 45.6
Day of the Month.		2d.	10th.	18th.	26th.	Day of the Month.		2d.	11th.	19th.	27th.
Polar Semidiameter . .		16".7	19".1	19".6	20".1	Polar Semidiameter . .		20".6	21".2	21".7	22".2
Horizontal Parallax . .		1.7	1.8	1.8	1.9	Horizontal Parallax . .		1.9	2.0	2.0	2.1

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	1 32 34.38	-0.554	+8 1 29.2	-3.83	14 45.6	1	1 21 29.16	-1.900	+6 51 11.7	-7.38	12 36.5
2	1 32 20.73	0.583	7 59 55.5	3.99	14 41.4	2	1 21 0.23	1.910	6 48 15.2	7.37	12 32.0
3	1 32 6.40	0.611	7 58 17.9	4.15	14 37.2	3	1 20 31.07	1.920	6 45 17.7	7.48	12 27.6
4	1 31 51.38	0.639	7 56 36.5	4.31	14 33.0	4	1 20 1.69	1.930	6 42 19.3	7.46	12 23.2
5	1 31 35.69	0.667	7 54 51.3	4.46	14 28.8	5	1 19 32.13	1.938	6 39 20.0	7.40	12 18.8
6	1 31 19.33	-0.686	+7 53 2.5	-4.61	14 24.6	6	1 19 2.40	-1.942	+6 36 20.0	-7.51	12 14.4
7	1 31 2.32	0.733	7 51 10.0	4.76	14 20.4	7	1 18 32.53	1.948	6 33 19.5	7.53	12 9.9
8	1 30 44.66	0.750	7 49 14.0	4.91	14 16.2	8	1 18 2.53	1.953	6 30 18.6	7.55	12 5.5
9	1 30 26.36	0.777	7 47 14.4	5.06	14 11.9	9	1 17 32.43	1.956	6 27 17.3	7.56	12 1.1
10	1 30 7.42	0.803	7 45 11.3	5.20	14 7.7	10	1 17 2.26	1.959	6 24 15.9	7.56	11 56.6
11	1 29 47.88	-0.826	+7 43 4.8	-5.34	14 3.4	11	1 16 32.02	-1.961	+6 21 14.4	-7.55	11 52.2
12	1 29 27.72	0.852	7 40 55.1	5.48	13 59.1	12	1 16 1.75	1.962	6 18 13.0	7.55	11 47.7
13	1 29 6.97	0.876	7 38 42.0	5.61	13 54.9	13	1 15 31.47	1.968	6 15 11.9	7.54	11 43.3
14	1 28 45.63	0.900	7 36 25.7	5.74	13 50.6	14	1 15 1.30	1.961	6 12 11.2	7.52	11 38.9
15	1 28 23.72	0.924	7 34 6.2	5.87	13 46.3	15	1 14 30.97	1.959	6 9 11.0	7.49	11 34.4
16	1 28 1.26	-0.947	+7 31 43.8	-6.00	13 42.0	16	1 14 0.79	-1.956	+6 6 11.5	-7.46	11 30.0
17	1 27 38.25	0.969	7 29 18.3	6.12	13 37.7	17	1 13 30.70	1.952	6 3 12.8	7.42	11 25.6
18	1 27 14.72	0.991	7 26 50.0	6.24	13 33.3	18	1 13 0.72	1.947	6 0 15.1	7.38	11 21.2
19	1 26 50.68	1.012	7 24 18.9	6.35	13 29.0	19	1 12 30.87	1.941	5 57 18.5	7.33	11 16.7
20	1 26 26.15	1.032	7 21 45.2	6.46	13 24.7	20	1 12 1.17	1.934	5 54 23.2	7.27	11 12.3
21	1 26 1.14	-1.052	+7 19 9.0	-6.56	13 20.3	21	1 11 31.65	-1.926	+5 51 29.2	-7.21	11 7.9
22	1 25 35.67	1.071	7 16 30.3	6.66	13 16.0	22	1 11 2.33	1.917	5 48 36.9	7.14	11 3.5
23	1 25 9.76	1.089	7 13 49.2	6.75	13 11.6	23	1 10 33.25	1.907	5 45 46.3	7.07	10 59.1
24	1 24 43.44	1.105	7 11 5.9	6.84	13 7.2	24	1 10 4.41	1.196	5 42 57.5	6.99	10 54.7
25	1 24 16.71	1.121	7 8 20.6	6.92	13 2.8	25	1 9 35.85	1.184	5 40 10.7	6.91	10 50.3
26	1 23 49.61	-1.136	+7 5 33.3	-7.00	12 58.5	26	1 9 7.58	-1.171	+5 37 26.1	-6.89	10 45.9
27	1 23 22.15	1.151	7 2 44.1	7.08	12 54.1	27	1 8 39.63	1.158	5 34 43.7	6.79	10 41.5
28	1 22 54.36	1.165	6 59 53.2	7.15	12 49.7	28	1 8 12.01	1.144	5 32 3.8	6.68	10 37.1
29	1 22 26.24	1.177	6 57 0.8	7.21	12 45.3	29	1 7 44.75	1.129	5 29 26.3	6.51	10 32.7
30	1 21 57.84	1.189	6 54 6.9	7.27	12 40.9	30	1 7 17.87	1.119	5 26 51.4	6.39	10 28.3
31	1 21 29.16	-1.200	+6 51 11.7	-7.32	12 36.5	31	1 6 51.39	-1.095	+5 24 19.3	-6.27	10 24.0
32	1 21 0.23	-1.210	+6 48 15.2	-7.37	12 32.0	32	1 6 25.32	-1.077	+5 21 50.1	-6.15	10 19.6
Day of the Month.		4th.	12th.	20th.	28th.	Day of the Month.		6th.	14th.	22d.	30th.
Polar Semidiameter . .		22'7	23'1	23'4	23'6	Polar Semidiameter . .		23'8	23'8	23'7	23'5
Horizontal Parallax . .		2.1	2.2	2.2	2.2	Horizontal Parallax . .		2.2	2.2	2.2	2.2

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>		<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>
1	1 6 25.32	-1.077	+5 21 50.1	-6.15	10 19.6	1	0 57 51.07	-0.981	+4 36 48.1	-0.95	8 13.2
2	1 5 59.69	1.059	5 19 23.9	6.03	10 15.2	2	0 57 44.72	0.940	4 36 28.0	0.74	8 9.2
3	1 5 34.50	1.040	5 17 0.7	5.90	10 10.9	3	0 57 39.12	0.917	4 36 12.8	0.54	8 5.2
4	1 5 9.79	1.020	5 14 40.7	5.77	10 6.6	4	0 57 34.29	0.185	4 36 2.4	0.34	8 1.2
5	1 4 45.56	0.999	5 12 24.0	5.63	10 2.2	5	0 57 30.23	0.153	4 35 56.9	-0.13	7 57.2
6	1 4 21.83	-0.978	+5 10 10.6	-5.49	9 57.9	6	0 57 26.93	-0.121	+4 35 56.2	+0.07	7 53.2
7	1 3 58.61	0.956	5 8 0.7	5.34	9 53.6	7	0 57 24.40	0.089	4 36 0.5	0.27	7 49.2
8	1 3 35.93	0.934	5 5 54.3	5.19	9 49.3	8	0 57 22.65	0.067	4 36 9.5	0.48	7 45.3
9	1 3 13.79	0.911	5 3 51.6	5.04	9 45.0	9	0 57 21.66	-0.025	4 36 23.5	0.68	7 41.3
10	1 2 52.22	0.887	5 1 52.7	4.88	9 40.7	10	0 57 21.44	+0.007	4 36 42.3	0.89	7 37.4
11	1 2 31.22	-0.863	+4 59 57.5	-4.73	9 36.4	11	0 57 22.00	+0.039	+4 37 5.9	+1.09	7 33.5
12	1 2 10.81	0.838	4 58 6.3	4.55	9 32.2	12	0 57 23.32	0.079	4 37 34.4	1.29	7 29.6
13	1 1 51.01	0.812	4 56 19.1	4.38	9 27.9	13	0 57 25.42	0.104	4 38 7.7	1.49	7 25.7
14	1 1 31.83	0.786	4 54 35.9	4.21	9 23.7	14	0 57 28.30	0.136	4 38 45.9	1.69	7 21.8
15	1 1 13.28	0.759	4 52 56.9	4.04	9 19.4	15	0 57 31.94	0.168	4 39 28.9	1.89	7 18.0
16	1 0 55.37	-0.732	+4 51 22.1	-3.86	9 15.2	16	0 57 36.36	+0.200	+4 40 16.7	+2.09	7 14.1
17	1 0 38.13	0.705	4 49 51.7	3.68	9 11.0	17	0 57 41.54	0.229	4 41 9.3	2.29	7 10.2
18	1 0 21.55	0.677	4 48 25.6	3.50	9 6.8	18	0 57 47.49	0.264	4 42 6.7	2.49	7 6.4
19	1 0 5.65	0.648	4 47 3.9	3.31	9 2.6	19	0 57 54.20	0.296	4 43 8.8	2.69	7 2.6
20	0 59 50.45	0.619	4 45 46.8	3.12	8 58.4	20	0 58 1.68	0.327	4 44 15.6	2.88	6 58.8
21	0 59 35.94	-0.590	+4 44 34.2	-2.93	8 54.3	21	0 58 9.91	+0.359	+4 45 27.1	+3.08	6 55.0
22	0 59 22.15	0.560	4 43 26.2	2.74	8 50.1	22	0 58 18.90	0.390	4 46 43.3	3.28	6 51.2
23	0 59 9.07	0.530	4 42 22.9	2.54	8 46.0	23	0 58 28.64	0.421	4 48 4.2	3.47	6 47.5
24	0 58 56.72	0.500	4 41 24.3	2.35	8 41.9	24	0 58 39.12	0.452	4 49 29.6	3.66	6 43.7
25	0 58 45.11	0.469	4 40 30.4	2.15	8 37.7	25	0 58 50.34	0.483	4 50 59.5	3.85	6 39.9
26	0 58 34.23	-0.438	+4 39 41.3	-1.95	8 33.6	26	0 59 2.30	+0.513	+4 52 34.0	+4.03	6 36.2
27	0 58 24.09	0.407	4 38 57.0	1.75	8 29.5	27	0 59 14.99	0.544	4 54 12.9	4.22	6 32.5
28	0 58 14.71	0.376	4 38 17.6	1.55	8 25.4	28	0 59 28.40	0.574	4 55 56.2	4.40	6 28.8
29	0 58 6.08	0.344	4 37 42.9	1.35	8 21.4	29	0 59 42.53	0.604	4 57 43.9	4.58	6 25.1
30	0 57 58.20	0.313	4 37 13.1	1.15	8 17.3	30	0 59 57.37	0.633	4 59 35.9	4.76	6 21.4
31	0 57 51.07	-0.981	+4 36 48.1	-0.95	8 13.2	31	1 0 12.92	+0.662	+5 1 32.2	+4.94	6 17.8
32	0 57 44.72	-0.949	+4 36 28.0	-0.74	8 9.2	32	1 0 29.17	+0.691	+5 3 32.7	+5.11	6 14.1
Day of the Month.		7th.	15th.	23d.	Day of the Month.		1st.	9th.	17th.	25th.	33d.
Polar Semidiameter		23'.2	22'.8	22'.3	Polar Semidiameter . .		21'.8	21'.2	20'.7	20'.2	19'.6
Horizontal Parallax		2.2	2.1	2.1	Horizontal Parallax . .		2.0	2.0	1.9	1.9	1.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.											
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.						
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.								
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m							
1	12 3 54.49	+0.155	+2 1 18.7	-0.23	17 18.7	1	12 2 38.56	-0.349	+2 18 51.0	+2.35	15 15.4						
2	12 3 58.01	0.138	2 1 14.6	0.12	17 14.8	2	12 2 30.00	0.364	2 20 2.9	3.04	15 11.3						
3	12 4 1.13	0.121	2 1 13.1	-0.01	17 10.9	3	12 2 21.08	0.379	2 21 16.9	3.13	15 7.2						
4	12 4 3.85	0.104	2 1 14.2	+0.10	17 7.1	4	12 2 11.83	0.393	2 22 33.0	3.21	15 3.1						
5	12 4 6.15	0.087	2 1 17.9	0.21	17 3.1	5	12 2 2.24	0.407	2 23 51.0	3.29	14 59.1						
6	12 4 8.05	+0.071	+2 1 24.3	+0.32	16 59.2	6	12 1 52.32	-0.421	+2 25 11.0	+3.37	14 55.0						
7	12 4 9.55	0.054	2 1 33.3	0.43	16 55.3	7	12 1 42.07	0.434	2 26 32.9	3.45	14 50.9						
8	12 4 10.64	0.037	2 1 44.8	0.54	16 51.4	8	12 1 31.50	0.447	2 27 56.7	3.53	14 46.7						
9	12 4 11.33	0.020	2 1 59.0	0.65	16 47.4	9	12 1 20.61	0.460	2 29 22.4	3.61	14 42.6						
10	12 4 11.62	+0.003	2 2 15.8	0.76	16 43.5	10	12 1 9.41	0.473	2 30 49.8	3.68	14 38.5						
11	12 4 11.51	-0.013	+2 2 35.1	+0.86	16 39.6	11	12 0 57.91	-0.485	+2 32 18.9	+3.75	14 34.4						
12	12 4 11.01	0.030	2 2 57.0	0.97	16 35.6	12	12 0 46.11	0.497	2 33 49.7	3.82	14 30.2						
13	12 4 10.10	0.047	2 3 21.4	1.08	16 31.7	13	12 0 34.02	0.509	2 35 22.3	3.89	14 26.1						
14	12 4 8.79	0.063	2 3 48.3	1.19	16 27.7	14	12 0 21.64	0.521	2 36 56.4	3.96	14 22.0						
15	12 4 7.08	0.080	2 4 17.8	1.29	16 23.8	15	12 0 8.98	0.533	2 38 32.0	4.02	14 17.8						
16	12 4 4.98	-0.096	+2 4 49.8	+1.39	16 19.8	16	11 59 56.05	-0.544	+2 40 9.1	+4.08	14 13.7						
17	12 4 2.48	0.113	2 5 24.3	1.50	16 15.8	17	11 59 42.85	0.555	2 41 47.8	4.14	14 9.5						
18	12 3 59.59	0.130	2 6 1.3	1.60	16 11.8	18	11 59 29.29	0.566	2 43 27.9	4.20	14 5.4						
19	12 3 56.30	0.146	2 6 40.8	1.70	16 7.9	19	11 59 15.67	0.577	2 45 9.3	4.26	14 1.2						
20	12 3 52.62	0.162	2 7 22.8	1.80	16 3.9	20	11 59 1.71	0.587	2 46 52.0	4.31	13 57.0						
21	12 3 48.55	-0.178	+2 8 7.2	+1.90	15 59.9	21	11 58 47.51	-0.597	+2 48 36.1	+4.36	13 52.9						
22	12 3 44.08	0.194	2 8 54.0	2.00	15 55.8	22	11 58 33.08	0.606	2 50 21.3	4.41	13 48.7						
23	12 3 39.22	0.210	2 9 43.2	2.10	15 51.8	23	11 58 18.42	0.615	2 52 7.7	4.46	13 44.5						
24	12 3 33.99	0.226	2 10 34.9	2.20	15 47.8	24	11 58 3.54	0.624	2 53 55.1	4.50	13 40.4						
25	12 3 28.37	0.242	2 11 28.9	2.30	15 43.8	25	11 57 48.46	0.633	2 55 43.7	4.54	13 36.2						
26	12 3 22.37	-0.258	+2 12 25.2	+2.40	15 39.7	26	11 57 33.18	-0.641	+2 57 33.2	+4.58	13 32.0						
27	12 3 15.99	0.274	2 13 23.9	2.50	15 35.7	27	11 57 17.71	0.649	2 59 23.6	4.62	13 27.8						
28	12 3 9.24	0.289	2 14 24.9	2.59	15 31.6	28	11 57 2.05	0.656	3 1 14.8	4.65	13 23.6						
29	12 3 2.11	0.304	2 15 28.1	2.68	15 27.6	29	11 56 46.23	0.663	3 3 6.9	4.68	13 19.4						
30	12 2 54.62	0.319	2 16 33.5	2.77	15 23.5	30	11 56 30.24	0.670	3 4 59.7	4.71	13 15.2						
31	12 2 46.77	-0.334	+2 17 41.2	+2.86	15 19.5	31	11 56 14.10	-0.676	+3 6 53.1	+4.73	13 11.0						
32	12 2 38.56	-0.349	+2 18 51.0	+2.95	15 15.4	32	11 55 57.81	-0.689	+3 8 47.1	+4.75	13 6.8						
Day of the Month.					0th.	8th.	16th.	24th.	Day of the Month.					1st.	9th.	17th.	25th.
Polar Semidiameter . .					8".5	8".6	8".7	8".8	Polar Semidiameter . .					8".9	9".0	9".1	9".2
Horizontal Parallax . .					1.0	1.0	1.0	1.0	Horizontal Parallax . .					1.0	1.0	1.0	1.0

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m s		h m s	s	° ' "	"	h m s	
1	11 56 30.24	-0.670	+3 4 59.7	+4.71	13 15.2	1	11 47 44.55	-0.681	+4 3 31.2	+4.32	11 4.6
2	11 56 14.10	0.676	3 6 53.1	4.73	13 11.0	2	11 47 28.27	0.675	4 5 14.2	4.37	11 0.4
3	11 55 57.81	0.682	3 8 47.1	4.75	13 6.8	3	11 47 12.14	0.669	4 6 55.9	4.21	10 56.2
4	11 55 41.39	0.687	3 10 41.7	4.77	13 2.6	4	11 46 56.16	0.663	4 8 36.3	4.15	10 52.0
5	11 55 24.84	0.692	3 12 36.8	4.79	12 58.4	5	11 46 40.35	0.656	4 10 15.3	4.09	10 47.8
6	11 55 8.18	-0.697	+3 14 32.1	+4.81	12 54.2	6	11 46 24.70	-0.649	+4 11 52.8	+4.03	10 43.6
7	11 54 51.41	0.701	3 16 27.9	4.82	12 50.0	7	11 46 9.24	0.641	4 13 28.8	3.97	10 39.4
8	11 54 34.54	0.705	3 18 23.9	4.83	12 45.7	8	11 45 53.96	0.633	4 15 3.3	3.90	10 35.2
9	11 54 17.59	0.708	3 20 20.2	4.84	12 41.5	9	11 45 38.87	0.625	4 16 36.2	3.83	10 31.0
10	11 54 0.55	0.711	3 22 16.5	4.84	12 37.3	10	11 45 23.99	0.616	4 18 7.5	3.76	10 26.8
11	11 53 43.45	-0.714	+3 24 12.9	+4.85	12 33.1	11	11 45 9.31	-0.607	+4 19 37.1	+3.69	10 22.7
12	11 53 26.29	0.716	3 26 9.5	4.85	12 28.9	12	11 44 54.84	0.598	4 21 5.0	3.62	10 18.5
13	11 53 9.07	0.718	3 28 6.0	4.85	12 24.7	13	11 44 40.60	0.589	4 22 31.2	3.55	10 14.3
14	11 52 51.81	0.720	3 30 2.3	4.84	12 20.4	14	11 44 26.58	0.579	4 23 55.6	3.48	10 10.2
15	11 52 34.52	0.721	3 31 58.4	4.84	12 16.2	15	11 44 12.80	0.569	4 25 18.2	3.40	10 6.0
16	11 52 17.21	-0.722	+3 33 54.4	+4.83	12 12.0	16	11 43 59.26	-0.559	+4 26 38.9	+3.32	10 1.9
17	11 51 59.88	0.723	3 35 50.1	4.82	12 7.9	17	11 43 45.98	0.548	4 27 57.7	3.24	9 57.7
18	11 51 42.54	0.723	3 37 45.5	4.81	12 3.6	18	11 43 32.94	0.537	4 29 14.6	3.16	9 53.6
19	11 51 25.22	0.722	3 39 40.5	4.79	11 59.3	19	11 43 20.17	0.526	4 30 29.5	3.08	9 49.4
20	11 51 7.89	0.721	3 41 35.0	4.77	11 55.1	20	11 43 7.66	0.515	4 31 42.5	3.00	9 45.3
21	11 50 50.59	-0.720	+3 43 29.0	+4.75	11 50.9	21	11 42 55.43	-0.503	+4 32 53.4	+2.91	9 41.2
22	11 50 33.33	0.718	3 45 22.4	4.73	11 46.7	22	11 42 43.48	0.491	4 34 2.2	2.83	9 37.0
23	11 50 16.10	0.716	3 47 15.1	4.69	11 42.4	23	11 42 31.81	0.479	4 35 9.0	2.74	9 32.9
24	11 49 58.93	0.714	3 49 7.2	4.66	11 38.2	24	11 42 20.44	0.467	4 36 13.6	2.65	9 28.8
25	11 49 41.82	0.712	3 50 58.5	4.63	11 34.0	25	11 42 9.36	0.455	4 37 16.0	2.56	9 24.7
26	11 49 24.78	-0.709	+3 52 49.0	+4.59	11 29.8	26	11 41 58.59	-0.442	+4 38 16.2	+2.47	9 20.6
27	11 49 7.82	0.705	3 54 38.6	4.55	11 25.6	27	11 41 48.13	0.429	4 39 14.2	2.37	9 16.5
28	11 48 50.94	0.701	3 56 27.3	4.51	11 21.4	28	11 41 37.98	0.416	4 40 9.9	2.28	9 12.4
29	11 48 34.17	0.697	3 58 14.9	4.47	11 17.2	29	11 41 28.16	0.403	4 41 3.4	2.18	9 8.3
30	11 48 17.51	0.692	4 0 1.5	4.42	11 13.0	30	11 41 18.65	0.389	4 41 54.6	2.08	9 4.2
31	11 48 0.97	-0.687	+4 1 46.9	+4.37	11 8.7	31	11 41 9.48	-0.375	+4 42 43.4	+1.99	9 0.1
32	11 47 44.55	-0.681	+4 3 31.2	+4.32	11 4.6	32	11 41 0.64	-0.361	+4 43 29.9	+1.89	8 56.0
Day of the Month.		4th.	12th.	20th.	28th.	Day of the Month.		5th.	13th.	21st.	29th.
Polar Semidiameter . .		9.2	9.2	9.2	9.2	Polar Semidiameter . .		9.2	9.1	9.0	8.9
Horizontal Parallax . .		1.0	1.0	1.0	1.0	Horizontal Parallax . .		1.0	1.0	1.0	1.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s	h m s
1	11 41 9.48	-0.375	+4 42 43.4	+1.99	9 0.1	1	11 39 21.95	+0.097	+4 47 48.6	-1.19	6 56.5
2	11 41 0.64	0.361	4 43 29.9	1.80	8 56.0	2	11 39 24.45	0.112	4 47 18.8	1.29	6 52.6
3	11 40 52.13	0.347	4 44 14.0	1.79	8 52.0	3	11 39 27.33	0.198	4 46 46.6	1.30	6 48.7
4	11 40 43.96	0.333	4 44 55.8	1.69	8 47.9	4	11 39 30.58	0.143	4 46 11.9	1.40	6 44.9
5	11 40 36.13	0.319	4 45 35.1	1.59	8 43.8	5	11 39 34.21	0.150	4 45 34.8	1.50	6 41.0
6	11 40 28.05	-0.305	+4 46 12.1	+1.49	8 39.8	6	11 39 38.20	+0.174	+4 44 55.4	-1.09	6 37.1
7	11 40 21.52	0.290	4 46 46.7	1.39	8 35.7	7	11 39 42.57	0.190	4 44 13.6	1.79	6 33.3
8	11 40 14.74	0.275	4 47 18.8	1.29	8 31.7	8	11 39 47.30	0.205	4 43 29.4	1.89	6 29.4
9	11 40 8.31	0.260	4 47 48.5	1.19	8 27.7	9	11 39 52.40	0.220	4 42 42.8	1.99	6 25.6
10	11 40 2.24	0.245	4 48 15.7	1.08	8 23.6	10	11 39 57.87	0.235	4 41 53.9	2.09	6 21.7
11	11 39 56.52	-0.220	+4 48 40.5	+0.98	8 19.6	11	11 40 3.70	+0.250	+4 41 2.7	-2.19	6 17.9
12	11 39 51.17	0.215	4 49 2.8	0.88	8 15.6	12	11 40 9.89	0.265	4 40 9.2	2.29	6 14.1
13	11 39 46.17	0.200	4 49 22.7	0.78	8 11.6	13	11 40 16.44	0.280	4 39 13.4	2.38	6 10.3
14	11 39 41.54	0.185	4 49 40.1	0.67	8 7.6	14	11 40 23.35	0.295	4 38 15.3	2.47	6 6.4
15	11 39 37.27	0.170	4 49 55.1	0.57	8 3.6	15	11 40 30.62	0.310	4 37 15.0	2.57	6 2.6
16	11 39 33.37	-0.155	+4 50 7.6	+0.47	7 59.6	16	11 40 38.24	+0.325	+4 36 12.4	-2.66	5 58.8
17	11 39 29.84	0.140	4 50 17.6	0.37	7 55.6	17	11 40 46.22	0.340	4 35 7.5	2.75	5 55.0
18	11 39 26.68	0.124	4 50 25.2	0.26	7 51.6	18	11 40 54.55	0.355	4 34 0.4	2.84	5 51.2
19	11 39 23.89	0.109	4 50 30.2	0.16	7 47.6	19	11 41 3.23	0.369	4 32 51.1	2.93	5 47.5
20	11 39 21.47	0.093	4 50 32.8	+0.05	7 43.7	20	11 41 12.26	0.384	4 31 39.6	3.03	5 43.7
21	11 39 19.43	-0.078	+4 50 32.8	-0.05	7 39.8	21	11 41 21.64	+0.398	+4 30 26.0	-3.11	5 39.9
22	11 39 17.76	0.062	4 50 30.4	0.16	7 35.8	22	11 41 31.36	0.413	4 29 10.2	3.20	5 36.1
23	11 39 16.47	0.046	4 50 25.4	0.26	7 31.8	23	11 41 41.43	0.427	4 27 52.2	3.29	5 32.3
24	11 39 15.57	0.030	4 50 18.0	0.37	7 27.9	24	11 41 51.83	0.441	4 26 32.0	3.38	5 28.6
25	11 39 15.04	-0.014	4 50 8.0	0.47	7 23.9	25	11 42 2.58	0.455	4 25 9.7	3.47	5 24.8
26	11 39 14.89	+0.002	+4 49 55.6	-0.57	7 20.0	26	11 42 13.66	+0.469	+4 23 45.4	-3.56	5 21.1
27	11 39 15.11	0.018	4 49 40.6	0.68	7 16.1	27	11 42 25.07	0.483	4 22 19.0	3.65	5 17.3
28	11 39 15.72	0.033	4 49 23.2	0.78	7 12.1	28	11 42 36.82	0.496	4 20 50.5	3.73	5 13.6
29	11 39 16.71	0.049	4 49 3.3	0.89	7 8.2	29	11 42 48.89	0.509	4 19 19.9	3.81	5 9.8
30	11 39 18.08	0.065	4 48 40.9	0.99	7 4.3	30	11 43 1.28	0.523	4 17 47.4	3.90	5 6.1
31	11 39 19.83	+0.081	+4 48 16.0	-1.09	7 0.4	31	11 43 13.99	+0.536	+4 16 12.9	-3.98	5 2.4
32	11 39 21.95	+0.097	+4 47 48.6	-1.19	6 56.5	32	11 43 27.02	+0.549	+4 14 36.4	-4.06	4 58.7
Day of the Month.						Day of the Month.					
7th.						8th.					
15th.						16th.					
23d.						24th.					
31st.						31st.					
Polar Semidiameter .						Polar Semidiameter . .					
Horizontal Parallax .						Horizontal Parallax . .					
8.8						8.4					
1.0						0.9					
8.7						8.2					
1.0						0.9					
8.6						8.1					
1.0						0.9					
8.5						8.0					
1.0						0.9					

NOTE. The sign + indicates north declinations; the sign - indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	11 43 13.99	+0.536	+4 16 12.9	-3.98	5 2.4	1	11 52 9.35	+0.881	+3 13 2.0	-6.06	3 9.4
2	11 43 27.02	0.549	4 14 36.4	4.06	4 58.7	2	11 52 30.59	0.890	3 10 36.0	6.11	3 5.8
3	11 43 40.36	0.562	4 12 58.0	4.14	4 55.0	3	11 52 52.06	0.899	3 8 8.7	6.16	3 2.3
4	11 43 54.01	0.575	4 11 17.7	4.22	4 51.3	4	11 53 13.72	0.907	3 5 40.2	6.21	2 58.7
5	11 44 7.97	0.588	4 9 35.5	4.30	4 47.6	5	11 53 35.59	0.915	3 3 10.6	6.26	2 55.1
6	11 44 22.23	+0.601	+4 7 51.4	-4.38	4 43.9	6	11 53 57.65	+0.923	+3 0 39.9	-6.31	2 51.5
7	11 44 36.80	0.613	4 6 5.5	4.46	4 40.2	7	11 54 19.90	0.931	2 58 8.0	6.35	2 48.0
8	11 44 51.65	0.625	4 4 17.8	4.53	4 36.5	8	11 54 42.35	0.939	2 55 35.1	6.39	2 44.4
9	11 45 6.80	0.637	4 2 28.3	4.60	4 32.8	9	11 55 4.98	0.947	2 53 1.1	6.44	2 40.9
10	11 45 22.25	0.649	4 0 37.0	4.68	4 29.2	10	11 55 27.80	0.955	2 50 26.1	6.48	2 37.3
11	11 45 37.98	+0.661	+3 58 43.9	-4.75	4 25.5	11	11 55 50.80	+0.963	+2 47 50.0	-6.52	2 33.8
12	11 45 53.99	0.673	3 56 49.1	4.82	4 21.8	12	11 56 13.97	0.969	2 45 12.9	6.56	2 30.2
13	11 46 10.29	0.685	3 54 52.6	4.89	4 18.1	13	11 56 37.32	0.976	2 42 34.9	6.60	2 26.7
14	11 46 26.87	0.697	3 52 54.4	4.96	4 14.5	14	11 57 0.84	0.983	2 39 55.9	6.64	2 23.1
15	11 46 43.72	0.709	3 50 54.5	5.03	4 10.9	15	11 57 24.53	0.990	2 37 16.0	6.68	2 19.6
16	11 47 0.85	+0.720	+3 48 53.0	-5.10	4 7.2	16	11 57 48.39	+0.997	+2 34 35.1	-6.72	2 16.0
17	11 47 18.24	0.731	3 46 49.9	5.17	4 3.6	17	11 58 12.41	1.004	2 31 53.4	6.76	2 12.5
18	11 47 35.90	0.742	3 44 45.1	5.24	4 0.0	18	11 58 36.58	1.010	2 29 10.9	6.79	2 9.0
19	11 47 53.83	0.753	3 42 38.8	5.30	3 56.4	19	11 59 0.91	1.016	2 26 27.5	6.83	2 5.5
20	11 48 12.02	0.764	3 40 30.9	5.37	3 52.8	20	11 59 25.38	1.022	2 23 43.3	6.86	2 1.9
21	11 48 30.46	+0.775	+3 38 21.4	-5.43	3 49.1	21	11 59 49.99	+1.028	+2 20 58.3	-6.89	1 58.4
22	11 48 49.16	0.785	3 36 10.4	5.49	3 45.5	22	12 0 14.75	1.034	2 18 12.6	6.92	1 54.9
23	11 49 8.12	0.795	3 33 57.9	5.55	3 41.9	23	12 0 39.65	1.040	2 15 26.1	6.95	1 51.4
24	11 49 27.31	0.805	3 31 43.9	5.61	3 38.3	24	12 1 4.68	1.046	2 12 39.0	6.98	1 47.9
25	11 49 46.75	0.815	3 29 28.5	5.67	3 34.7	25	12 1 29.84	1.051	2 9 51.2	7.01	1 44.4
26	11 50 6.43	+0.825	+3 27 11.6	-5.73	3 31.0	26	12 1 55.13	+1.056	+2 7 2.7	-7.04	1 40.9
27	11 50 26.36	0.835	3 24 53.3	5.79	3 27.4	27	12 2 20.54	1.061	2 4 13.6	7.06	1 37.4
28	11 50 46.51	0.845	3 22 33.7	5.85	3 23.8	28	12 2 46.07	1.066	2 1 23.9	7.08	1 33.9
29	11 51 6.88	0.854	3 20 12.8	5.90	3 20.2	29	12 3 11.71	1.071	1 58 33.7	7.10	1 30.4
30	11 51 27.49	0.863	3 17 50.5	5.96	3 16.6	30	12 3 37.45	1.075	1 55 43.0	7.12	1 26.9
31	11 51 48.31	+0.872	+3 15 26.9	-6.01	3 13.0	31	12 4 3.31	+1.079	+1 52 51.7	-7.14	1 23.4
32	11 52 9.35	+0.881	+3 13 2.0	-6.06	3 9.4	32	12 4 29.27	+1.083	+1 50 0.0	-7.16	1 19.9
Day of the Month.						Day of the Month.					
		2d.	10th.	18th.	26th.			2d.	11th.	19th.	27th.
Polar Semidiameter . .		8 ⁰	7 ⁹	7 ⁸	7 ⁷	Polar Semidiameter . .		7 ⁷	7 ⁶	7 ⁶	7 ⁵
Horizontal Parallax . .		0.9	0.9	0.9	0.9	Horizontal Parallax . .		0.9	0.9	0.9	0.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Neon.	Neon.	Neon.	Neon.	Neon.	h m	Neon.	Neon.	Neon.	Neon.	Neon.	h m
1	12 4 29.27	+1.083	+1 50 0.0	-7.16	1 19.9	1	12 17 56.98	+1.135	+0 23 33.1	-7.25	23 31.8
2	12 4 55.32	1.087	1 47 7.9	7.18	1 16.4	2	12 18 24.23	1.135	0 19 39.4	7.23	23 28.3
3	12 5 21.47	1.091	1 44 15.3	7.20	1 12.9	3	12 18 51.46	1.134	0 16 46.1	7.22	23 24.8
4	12 5 47.71	1.095	1 41 22.3	7.22	1 9.4	4	12 19 18.65	1.133	0 13 53.2	7.20	23 21.3
5	12 6 14.03	1.099	1 38 29.0	7.24	1 5.9	5	12 19 45.82	1.132	0 11 0.8	7.18	23 17.9
6	12 6 40.44	+1.102	+1 35 35.3	-7.25	1 2.4	6	12 20 12.96	+1.130	+0 8 8.7	-7.16	23 14.4
7	12 7 6.92	1.105	1 32 41.3	7.26	0 58.9	7	12 20 40.06	1.128	0 5 17.2	7.14	23 10.9
8	12 7 33.49	1.108	1 29 46.9	7.27	0 55.4	8	12 21 7.12	1.126	+0 2 26.1	7.12	23 7.4
9	12 8 0.13	1.111	1 26 52.3	7.28	0 51.9	9	12 21 34.14	1.124	-0 0 24.4	7.10	23 4.0
10	12 8 26.83	1.114	1 23 57.5	7.29	0 48.4	10	12 22 1.11	1.122	0 3 14.4	7.08	23 0.5
11	12 8 53.60	+1.117	+1 21 2.4	-7.30	0 44.9	11	12 22 28.03	+1.120	-0 6 3.9	-7.05	22 57.0
12	12 9 20.44	1.119	1 18 7.1	7.31	0 41.4	12	12 22 54.89	1.118	0 8 52.7	7.02	22 53.5
13	12 9 47.33	1.121	1 15 11.7	7.31	0 37.9	13	12 23 21.69	1.115	0 11 40.9	7.00	22 50.0
14	12 10 14.28	1.123	1 12 16.1	7.32	0 34.4	14	12 23 48.43	1.112	0 14 28.5	6.97	22 46.5
15	12 10 41.28	1.125	1 9 20.3	7.32	0 30.9	15	12 24 15.10	1.109	0 17 15.5	6.94	22 43.0
16	12 11 8.33	+1.127	+1 6 24.4	-7.32	0 27.5	16	12 24 41.70	+1.106	-0 20 1.7	-6.91	22 39.5
17	12 11 35.43	1.129	1 3 28.4	7.33	0 24.0	17	12 25 8.22	1.103	0 22 47.2	6.88	22 36.0
18	12 12 2.56	1.131	1 0 32.4	7.33	0 20.5	18	12 25 34.66	1.100	0 25 31.8	6.85	22 32.5
19	12 12 29.72	1.133	0 57 36.4	7.33	0 17.1	19	12 26 1.02	1.096	0 28 15.7	6.82	22 29.0
20	12 12 56.93	1.134	0 54 40.4	7.33	0 13.6	20	12 26 27.28	1.092	0 30 58.8	6.78	22 25.5
21	12 13 24.16	+1.135	+0 51 44.4	-7.33	0 10.2	21	12 26 53.45	+1.086	-0 33 41.0	-6.74	22 22.0
22	12 13 51.41	1.136	0 48 48.5	7.33	0 6.7	22	12 27 19.52	1.084	0 36 22.3	6.70	22 18.5
23	12 14 18.67	1.136	0 45 52.7	7.32	0 3.2	23	12 27 45.49	1.080	0 39 2.7	6.66	22 15.0
24	12 14 45.96	1.136	0 42 57.0	7.32	23 56.2	24	12 28 11.34	1.075	0 41 42.2	6.62	22 11.5
25	12 15 13.25	1.137	0 40 1.4	7.31	23 52.7	25	12 28 37.08	1.070	0 44 20.7	6.58	22 8.0
26	12 15 40.55	+1.137	+0 37 6.1	-7.30	23 49.2	26	12 29 2.71	+1.065	-0 46 58.2	-6.54	22 4.5
27	12 16 7.85	1.137	0 34 11.0	7.29	23 45.7	27	12 29 28.22	1.060	0 49 34.6	6.50	22 1.0
28	12 16 35.15	1.137	0 31 16.1	7.28	23 42.2	28	12 29 53.59	1.055	0 52 10.0	6.46	21 57.5
29	12 17 2.44	1.136	0 28 21.4	7.27	23 38.7	29	12 30 18.84	1.050	0 54 44.3	6.41	21 54.0
30	12 17 29.72	1.136	0 25 27.1	7.26	23 35.2	30	12 30 43.95	1.044	0 57 17.5	6.36	21 50.5
31	12 17 56.98	+1.135	+0 22 33.1	-7.25	23 31.8	31	12 31 8.93	+1.038	-0 59 49.6	-6.31	21 47.0
32	12 18 24.23	+1.135	+0 19 39.4	-7.23	23 28.3	32	12 31 33.76	+1.032	-1 2 20.5	-6.26	21 43.5

Day of the Month.	4th.	12th.	20th.	28th.	Day of the Month.	6th.	14th.	22d.	30th.
Polar Semidiameter . .	7 ⁵ / ₈	7 ⁴ / ₈	7 ⁴ / ₈	7 ⁴ / ₈	Polar Semidiameter . .	7 ⁴ / ₈	7 ⁴ / ₈	7 ⁵ / ₈	7 ⁵ / ₈
Horizontal Parallax . .	0.8	0.8	0.8	0.8	Horizontal Parallax . .	0.8	0.8	0.8	0.9

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	12 31 33.76	+1.032	-1 2 20.5	-6.26	21 43.5	1	12 42 31.89	+0.769	-2 6 42.2	-4.30	19 56.3			
2	12 31 58.45	1.026	1 4 50.2	6.21	21 39.9	2	12 42 50.21	0.758	2 8 24.4	4.22	19 52.7			
3	12 32 22.99	1.020	1 7 18.8	6.16	21 36.4	3	12 43 8.25	0.746	2 10 4.7	4.14	19 49.1			
4	12 32 47.37	1.013	1 9 46.1	6.11	21 32.9	4	12 43 26.02	0.734	2 11 42.9	4.06	19 45.4			
5	12 33 11.60	1.006	1 12 12.1	6.06	21 29.4	5	12 43 43.50	0.722	2 13 19.2	3.97	19 41.8			
6	12 33 35.66	+0.999	-1 14 36.9	-6.00	21 25.8	6	12 44 0.69	+0.710	-2 14 53.5	-3.88	19 38.1			
7	12 33 59.56	0.992	1 17 0.4	5.95	21 22.3	7	12 44 17.58	0.698	2 16 25.7	3.80	19 34.5			
8	12 34 23.29	0.985	1 19 22.5	5.90	21 18.7	8	12 44 34.18	0.686	2 17 55.8	3.72	19 30.8			
9	12 34 46.84	0.978	1 21 43.3	5.84	21 15.2	9	12 44 50.49	0.673	2 19 23.9	3.63	19 27.2			
10	12 35 10.22	0.971	1 24 2.6	5.78	21 11.6	10	12 45 6.49	0.660	2 20 49.9	3.54	19 23.5			
11	12 35 33.42	+0.963	-1 26 20.6	-5.72	21 8.1	11	12 45 22.18	+0.647	-2 22 13.7	-3.45	19 19.8			
12	12 35 56.43	0.955	1 26 37.2	5.66	21 4.5	12	12 45 37.56	0.634	2 23 35.4	3.36	19 16.1			
13	12 36 19.24	0.947	1 30 52.3	5.60	21 1.0	13	12 45 52.62	0.621	2 24 54.9	3.27	19 12.4			
14	12 36 41.85	0.939	1 33 5.9	5.54	20 57.4	14	12 46 7.36	0.608	2 26 12.2	3.18	19 8.7			
15	12 37 4.28	0.930	1 35 18.0	5.48	20 53.9	15	12 46 21.78	0.594	2 27 27.3	3.09	19 5.0			
16	12 37 26.49	+0.921	-1 37 28.6	-5.41	20 50.3	16	12 46 35.87	+0.580	-2 28 40.2	-2.99	19 1.3			
17	12 37 48.49	0.912	1 39 37.5	5.34	20 46.7	17	12 46 49.63	0.566	2 29 50.3	2.90	18 57.6			
18	12 38 10.27	0.903	1 41 44.8	5.27	20 43.1	18	12 47 3.05	0.552	2 30 59.2	2.81	18 53.9			
19	12 38 31.84	0.894	1 43 50.6	5.20	20 39.6	19	12 47 16.12	0.538	2 32 5.2	2.71	18 50.1			
20	12 38 53.19	0.885	1 45 54.6	5.13	20 36.0	20	12 47 28.86	0.524	2 33 8.9	2.61	18 46.4			
21	12 39 14.30	+0.875	-1 47 57.0	-5.06	20 32.4	21	12 47 41.26	+0.509	-2 34 10.3	-2.51	18 42.6			
22	12 39 35.17	0.865	1 49 57.6	4.99	20 28.8	22	12 47 53.29	0.495	2 35 9.3	2.41	18 38.9			
23	12 39 55.82	0.855	1 51 56.6	4.92	20 25.2	23	12 48 4.98	0.480	2 36 5.9	2.31	18 35.2			
24	12 40 16.22	0.845	1 53 53.7	4.85	20 21.6	24	12 48 16.31	0.465	2 37 0.2	2.21	18 31.5			
25	12 40 36.37	0.835	1 55 49.0	4.77	20 18.0	25	12 48 27.29	0.450	2 37 52.1	2.11	18 27.7			
26	12 40 56.27	+0.824	-1 57 42.5	-4.69	20 14.4	26	12 48 37.90	+0.435	-2 38 41.6	-2.01	18 23.9			
27	12 41 15.92	0.813	1 59 34.2	4.62	20 10.8	27	12 48 48.15	0.420	2 39 28.7	1.91	18 20.2			
28	12 41 35.31	0.802	2 1 24.1	4.54	20 7.2	28	12 48 58.03	0.405	2 40 13.4	1.81	18 16.4			
29	12 41 54.44	0.791	2 3 12.0	4.46	20 3.6	29	12 49 7.55	0.390	2 40 55.7	1.71	18 12.6			
30	12 42 13.30	0.780	2 4 58.1	4.38	19 59.9	30	12 49 16.69	0.374	2 41 35.5	1.61	18 8.8			
31	12 42 31.89	+0.769	-2 6 42.2	-4.30	19 56.3	31	12 49 25.47	+0.358	-2 42 12.9	-1.51	18 5.1			
32	12 42 50.21	+0.758	-2 8 24.4	-4.22	19 52.7	32	12 49 33.87	+0.342	-2 42 47.9	-1.41	18 1.3			
Day of the Month.						7th.	15th.	23d.	Day of the Month.					
Polar Semidiameter						7.6	7.6	7.7	Polar Semidiameter . .					
Horizontal Parallax						0.9	0.9	0.9	Horizontal Parallax . .					

MEAN PLACES FOR THE BEGINNING OF 1892.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
<i>a</i> Andromedæ . . .	2	^h 0 ^m 2 ^s 48.30	+ 3.092	+ 28° 29' 38.8"	+ 19.88
<i>β</i> Cassiopeæ . . .	2	0 3 24.95	3.176	+ 58 33 13.5	19.85
<i>γ</i> Pegasi (<i>Algenib</i>) . .	3	0 7 40.46	3.084	+ 14 34 59.1	20.02
<i>ι</i> Ceti . . .	3	0 13 55.33	3.053	— 9 25 22.6	19.96
<i>β</i> Hydri . . .	3	0 20 4.00	3.227	— 77 51 45.2	20.28
<i>a</i> Cassiopeæ . . . (<i>var.</i>)	2	0 34 22.80	+ 3.375	+ 55 56 41.6	+ 19.79
<i>β</i> Ceti . . .	2	0 38 10.12	3.014	— 18 34 46.5	19.80
<i>γ</i> Cassiopeæ . . .	2	0 50 11.44	3.581	+ 60 7 54.1	19.56
<i>β</i> Andromedæ . . .	2	1 3 41.12	3.345	+ 35 2 52.0	19.16
<i>θ</i> ¹ Ceti . . .	3	1 18 37.48	2.997	— 8 44 26.8	18.66
<i>a</i> Urs. Min. (<i>Polaris</i>) . .	2	1 19 18.16	+ 23.693	+ 88 43 56.2	+ 18.66
<i>a</i> Eridani (<i>Achernar</i>) . .	1	1 33 41.16	2.232	— 57 47 8.1	18.35
<i>ζ</i> Ceti . . .	3	1 46 7.77	2.962	— 10 52 11.3	17.82
<i>β</i> Arietis . . .	3	1 48 40.40	3.304	+ 20 16 47.6	17.72
<i>γ</i> Andromedæ . . .	2	1 57 16.17	3.661	+ 41 48 40.3	17.44
<i>a</i> Arietis . . .	2	2 1 5.09	+ 3.372	+ 22 57 5.4	+ 17.17
<i>β</i> Trianguli . . .	3	2 3 7.04	3.555	+ 34 28 34.3	17.30
<i>ι</i> Cassiopeæ . . .	4	2 20 9.88	4.866	+ 66 54 59.0	16.42
<i>γ</i> Ceti . . .	3	2 37 42.23	3.104	+ 2 46 49.2	15.33
<i>a</i> Ceti . . .	2	2 56 38.00	3.131	+ 3 39 56.5	14.30
<i>β</i> Persei (<i>Algol</i>) (<i>var.</i>) . .	3	3 1 8.46	+ 3.884	+ 40 32 20.5	+ 14.11
<i>a</i> Persei . . .	2	3 16 36.78	4.259	+ 49 28 34.5	13.08
<i>ε</i> Eridani . . .	3	3 27 50.51	2.824	— 9 49 26.2	12.39
<i>η</i> Tauri . . .	3	3 41 3.82	3.557	+ 23 46 14.4	11.37
<i>ζ</i> Persei . . .	3	3 47 20.58	+ 3.761	+ 31 33 44.2	10.94
<i>γ</i> Hydri . . .	3	3 48 54.76	— 0.994	— 74 34 11.3	+ 10.98
<i>γ</i> Eridani . . .	3	3 52 59.47	+ 2.799	— 13 48 58.1	10.44
<i>c</i> Persei . . .	4	4 0 49.24	4.338	+ 47 25 24.6	9.93
<i>ε</i> Tauri . . .	4	4 22 18.58	3.498	+ 18 56 25.3	8.25
<i>a</i> Tauri (<i>Aldebaran</i>) . .	1	4 29 43.39	3.438	+ 16 17 30.0	7.50
<i>ι</i> Aurigæ . . .	3	4 49 57.62	+ 3.901	+ 32 59 40.3	+ 6.01
<i>β</i> Eridani . . .	3	5 2 32.41	2.949	— 5 13 35.2	4.92
<i>a</i> Aurigæ (<i>Capella</i>) . .	1	5 8 42.64	4.425	+ 45 53 14.7	4.02
<i>β</i> Orionis (<i>Rigel</i>) . .	1	5 9 20.84	2.881	— 8 19 36.7	4.39
<i>β</i> Tauri . . .	2	5 19 27.88	3.790	+ 28 30 56.2	3.35
<i>δ</i> Orionis . . . (<i>var.</i>)	3	5 26 29.34	+ 3.064	— 0 22 46.5	+ 2.92
<i>a</i> Leporis . . .	3	5 27 58.01	2.645	— 17 54 0.0	2.79
<i>ε</i> Orionis . . .	2	5 30 43.98	3.042	— 1 16 16.9	2.56
<i>a</i> Columbæ . . .	2	5 35 44.36	2.173	— 34 7 55.5	2.07
<i>κ</i> Orionis . . .	3	5 42 38.03	2.845	— 9 42 30.4	1.52
<i>a</i> Orionis . . . (<i>var.</i>)	1	5 49 19.48	+ 3.247	+ 7 23 11.0	+ 0.94
<i>β</i> Aurigæ . . .	2	5 51 36.42	4.402	+ 44 56 8.4	0.72
<i>θ</i> Aurigæ . . .	3	5 52 21.44	4.092	+ 37 12 15.8	+ 0.58
<i>η</i> Geminorum . . .	3	6 8 21.54	3.623	+ 22 32 15.3	— 0.75
<i>μ</i> Geminorum . . .	3	6 16 25.64	3.631	+ 22 34 6.2	1.56
<i>a</i> Argûs (<i>Canopus</i>) . .	1	6 21 33.35	+ 1.330	— 52 38 12.4	— 1.87
<i>γ</i> Geminorum . . .	2	6 31 28.38	3.467	+ 16 29 27.3	2.79
<i>a</i> Canis Majoris (<i>Sirius</i>) .	1	6 40 23.34	2.644	— 16 34 6.2	4.72
<i>ε</i> Canis Majoris . . .	2	6 54 22.90	2.358	— 28 49 32.0	4.73
<i>δ</i> Canis Majoris . . .	2	7 3 59.99	+ 2.438	— 26 13 19.1	— 5.52

MEAN PLACES FOR THE BEGINNING OF 1892.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
δ Geminorum	3	^h 7 ^m 13 ^s 40.40	+ 3.588	+ 22° 10' 50.3"	— 6.35
β Canis Minoris	3	7 21 17.67	3.260	+ 8 30 23.1	7.00
α^2 Geminorum (<i>Castor</i>)	2	7 27 42.61	3.838	+ 32 7 30.0	7.56
α Canis Min. (<i>Procyon</i>)	1	7 33 38.91	3.143	+ 5 30 4.8	9.00
β Geminorum (<i>Pollux</i>)	1	7 38 42.46	3.679	+ 28 17 11.6	8.43
15 Argus	3	8 2 56.68	+ 2.554	— 23 59 35.7	— 10.20
30 Monocerotis	4	8 20 15.82	3.000	— 3 33 15.8	11.52
ϵ Hydræ	3	8 41 3.43	3.182	+ 6 48 52.8	13.01
ϵ Ursæ Majoris	3	8 51 48.73	4.132	+ 48 27 54.9	13.92
β Argus	2	9 12 0.77	0.677	— 69 16 20.4	14.81
ϵ Argus	2	9 14 11.78	+ 1.601	— 58 49 18.6	— 15.00
α Hydræ	2	9 22 16.82	2.949	— 8 11 26.7	15.46
θ Ursæ Majoris	3	9 25 37.88	4.040	+ 52 10 8.9	16.23
ϵ Leonis	3	9 39 43.26	3.415	+ 24 16 16.4	16.43
α Leonis (<i>Regulus</i>)	1	10 2 37.23	3.200	+ 12 29 41.4	17.48
γ^1 Leonis	2	10 14 1.10	+ 3.314	+ 20 23 15.6	— 18.09
ρ Leonis	4	10 27 7.51	3.164	+ 9 51 43.7	18.44
46 Leonis Minoris	4	10 47 16.30	3.369	+ 34 47 49.9	19.30
α Ursæ Majoris	2	10 57 3.63	3.745	+ 62 20 2.3	19.37
δ Leonis	2	11 8 21.90	3.198	+ 21 6 55.0	19.69
δ Crateris	3	11 13 56.49	+ 2.997	— 14 11 39.5	— 19.47
λ Draconis	3	11 24 59.24	3.619	+ 69 55 37.5	19.84
β Leonis	2	11 43 33.06	3.064	+ 15 10 32.6	20.12
γ Ursæ Majoris	2	11 48 9.03	3.181	+ 54 17 42.4	20.03
ϵ Corvi	3	12 4 34.20	3.083	— 22 1 8.7	20.05
γ Corvi	2	12 10 15.13	+ 3.080	— 16 56 32.2	— 20.02
η Virginis	3	12 14 22.84	3.069	— 0 4 0.0	20.04
α^1 Crucis	1	12 20 35.62	3.297	— 62 30 1.7	20.01
δ^3 Corvi	2	12 24 16.70	3.103	— 15 54 50.2	20.08
β Corvi	2	12 28 42.83	3.142	— 22 47 58.2	19.96
γ Virginis	3	12 36 11.29	+ 3.033	— 0 51 26.0	— 19.81
α Canum Venaticorum	3	12 50 58.59	2.815	+ 38 54 5.9	19.51
ϵ Virginis	3	12 56 48.08	2.988	+ 11 32 22.8	19.41
α Virginis (<i>Spica</i>)	1	13 19 30.17	3.154	— 10 35 51.2	18.90
ζ Virginis	3	13 29 11.38	3.053	— 0 2 36.9	18.51
η Ursæ Majoris	2	13 43 17.15	+ 2.371	+ 49 51 8.3	— 18.08
η Bootis	3	13 49 32.55	2.857	+ 18 56 21.3	18.17
β Centauri	1	13 56 12.01	4.180	— 59 51 6.5	17.58
α Draconis	3	14 1 27.98	1.624	+ 64 53 31.1	17.30
α Bootis (<i>Arcturus</i>)	1	14 10 44.12	2.735	+ 19 44 41.3	18.88
α^2 Centauri	1	14 32 17.14	+ 4.048	— 60 23 33.4	— 15.37
ϵ Bootis	2	14 40 16.28	2.621	+ 27 31 46.8	15.34
α^2 Libræ	2	14 44 54.18	+ 3.310	— 15 35 33.9	15.16
β Ursæ Minoris	2	14 51 1.37	— 0.228	+ 74 35 48.6	14.72
β Bootis	3	14 57 52.70	+ 2.280	+ 40 48 59.9	14.36
δ Bootis	3	15 11 8.97	+ 2.421	+ 33 43 5.0	— 13.58
β Libræ	2	15 11 11.70	+ 3.222	— 8 59 3.0	13.50
γ^3 Ursæ Minoris	3	15 20 54.15	— 0.132	+ 72 13 5.8	12.81
α Cernæ Borealis	2	15 30 6.93	+ 2.539	+ 27 4 42.0	12.30
α Serpentis	2	15 38 56.89	+ 2.952	+ 6 45 56.1	— 11.54

MEAN PLACES FOR THE BEGINNING OF 1892.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
ϵ Serpentis	3	^h 15 ^m 45 ^s 25.94	+ 2.987	+ 4 48' 11".4	- 11".04
δ Scorpii	2	15 53 56.84	3.539	- 22 18 50.1	10.52
β^1 Scorpii	2	15 59 9.43	3.481	- 19 30 34.2	10.13
δ Ophiuchi	3	16 8 41.14	3.140	- 3 24 57.2	9.50
τ Herculis	3	16 16 29.69	1.801	+ 46 34 14.0	8.73
η Draconis	3	16 22 31.87	+ 0.807	+ 61 45 31.2	- 8.22
α Scorpii (<i>Antares</i>). . . .	1	16 22 47.11	3.671	- 26 11 30.8	8.29
β Herculis	2	16 25 34.63	2.578	+ 21 43 30.4	8.05
τ Ophiuchi	3	16 31 12.70	3.299	- 10 20 52.6	7.55
α Trianguli Australis	2	16 37 13.99	6.306	- 68 49 42.0	7.14
κ Ophiuchi	3	16 52 33.38	+ 2.838	+ 9 32 35.9	- 5.82
η Ophiuchi	3	17 4 11.01	3.436	- 15 35 26.9	4.76
π Herculis	3	17 11 17.15	2.089	+ 36 55 51.8	4.22
θ Ophiuchi	3	17 15 22.58	3.680	- 24 53 28.9	3.93
β Draconis	3	17 27 59.58	1.354	+ 52 22 52.8	2.79
α Ophiuchi	2	17 29 55.26	+ 2.783	+ 12 38 20.2	- 2.86
μ Herculis	3	17 42 13.93	2.346	+ 27 47 2.4	2.31
γ Draconis	2	17 54 5.90	1.392	+ 51 30 5.9	- 0.55
η Serpentis	3	18 15 43.28	3.102	- 2 55 34.3	+ 0.70
λ Sagittarii	3	18 21 18.32	3.703	- 25 28 52.0	1.64
α Lyre (<i>Vega</i>)	1	18 33 16.93	+ 2.031	+ 38 40 59.7	+ 3.18
σ Sagittarii	2	18 48 34.11	3.722	- 26 25 49.4	4.14
ζ Aquilæ	3	19 0 26.78	2.757	+ 13 42 11.6	5.12
δ Draconis	3	19 12 31.80	0.029	+ 67 28 17.6	6.33
β Cygni	3	19 26 21.96	2.419	+ 27 43 58.9	7.37
γ Aquilæ	3	19 41 7.51	+ 2.852	+ 10 21 1.2	+ 8.56
δ Cygni	3	19 41 36.00	1.876	+ 44 52 2.0	8.64
α Aquilæ (<i>Alair</i>)	1	19 45 30.84	2.928	+ 8 35 0.0	9.28
θ Aquilæ	3	20 5 43.92	3.097	- 1 8 29.8	10.47
α^2 Capricorni	3	20 12 3.75	3.332	- 12 52 45.3	10.93
α Pavonis	2	20 17 6.55	+ 4.783	- 57 4 49.5	+ 11.20
γ Cygni	2	20 18 21.24	2.154	+ 39 54 39.8	11.38
β Pavonis	3	20 35 13.40	5.471	- 66 35 25.6	12.54
α Cygni	2	20 37 45.03	2.044	+ 44 53 40.0	12.73
ϵ Cygni	3	20 41 50.49	2.428	+ 33 33 56.7	13.35
ν Cygni	4	20 53 8.80	+ 2.234	+ 40 45 5.3	+ 13.73
ζ Cygni	3	21 8 20.34	2.550	+ 29 47 2.4	14.62
α Cephei	3	21 16 0.13	1.436	+ 62 7 40.8	15.18
β Aquarii	3	21 25 52.42	3.162	- 6 2 46.1	15.67
β Cephei	3	21 27 15.89	0.793	+ 70 5 11.6	15.76
ϵ Pegasi	2	21 38 52.92	+ 2.947	+ 9 22 48.0	+ 16.36
α Aquarii	3	22 0 14.21	3.083	- 0 50 39.8	17.36
α Gruis	2	22 1 25.50	3.805	- 47 29 1.2	17.26
γ Aquarii	3	22 16 4.66	3.101	- 1 55 53.3	18.04
ζ Pegasi	3	22 36 4.55	2.991	+ 10 16 3.6	18.71
ι Cephei	3	22 45 50.05	+ 2.122	+ 65 37 56.4	+ 18.88
α Pis. Aus. (<i>Fomalhaut</i>)	1	22 51 40.93	3.324	- 30 11 40.3	19.00
α Pegasi (<i>Markab</i>). . . .	2	22 59 22.86	2.985	+ 14 37 27.0	19.30
λ Andromedæ	4	23 32 16.71	2.923	+ 45 52 21.9	19.47
ω Piscium	4	23 53 45.93	+ 3.078	+ 6 15 55.3	+ 19.93

ECLIPSES IN 1892.

In the year 1892 there will be four eclipses, two of the sun and two of the moon.

I.—*A Total Eclipse of the Sun*, 1892, April 26, invisible at Washington.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, April 26 $\begin{smallmatrix} d & h & m & s \\ 9 & 13 & 26.7 \end{smallmatrix}$

Sun and moon's R. A.	$\begin{smallmatrix} h & m & s \\ 2 & 18 & 52.05 \end{smallmatrix}$	Hourly motions	$\begin{smallmatrix} s \\ 9.46 \text{ and } 142.29 \end{smallmatrix}$
Sun's declination	$13^{\circ} 52' 47.8''$ N.	Hourly motion	$0' 47.7''$ N.
Moon's declination	$12^{\circ} 53' 8.7''$ N.	Hourly motion	$15' 38.3''$ N.
Sun's equa. hor. parallax	8.5	Sun's true semidiameter	15 53.0
Moon's equa. hor. parallax	61 15.7	Moon's true semidiameter	16 40.8

CIRCUMSTANCES OF THE ECLIPSE.

		Longitude from Greenwich.	Latitude.
Eclipse begins	April $\begin{smallmatrix} d & h & m \\ 26 & 7 & 46.9 \end{smallmatrix}$	$175^{\circ} 23.7'$ E.	$57^{\circ} 26.0'$ S.
Central eclipse begins	$\begin{smallmatrix} d & h & m \\ 26 & 9 & 8.5 \end{smallmatrix}$	$147^{\circ} 58.5'$ W.	$75^{\circ} 54.2'$ S.
Central eclipse at noon	$\begin{smallmatrix} d & h & m \\ 26 & 9 & 13.4 \end{smallmatrix}$	$138^{\circ} 58.2'$ W.	$64^{\circ} 24.5'$ S.
Central eclipse ends	$\begin{smallmatrix} d & h & m \\ 26 & 10 & 42.6 \end{smallmatrix}$	$81^{\circ} 58.3'$ W.	$36^{\circ} 53.3'$ S.
Eclipse ends	$\begin{smallmatrix} d & h & m \\ 26 & 12 & 4.1 \end{smallmatrix}$	$94^{\circ} 15.7'$ W.	$10^{\circ} 28.7'$ S.

II.—*A Partial Eclipse of the Moon*, 1892, May 11, partly visible in Washington, the moon rising eclipsed. The beginning visible generally in the westerly portions of Asia, in Europe, Africa, the easterly portions of the Atlantic Ocean and the easterly portion of South America. The ending visible generally in Arabia Europe, Africa, the Atlantic Ocean, South America, and the extreme easterly portion of North America.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, May 11 $\begin{smallmatrix} d & h & m & s \\ 11 & 11 & 14 & 36.2 \end{smallmatrix}$

Sun's right ascension	$\begin{smallmatrix} h & m & s \\ 3 & 16 & 57.72 \end{smallmatrix}$	Hourly motion	$\begin{smallmatrix} s \\ 9.80 \end{smallmatrix}$
Moon's right ascension	$15^{\circ} 16' 57.72''$	Hourly motion	118.98
Sun's declination	$18^{\circ} 11' 34.1''$ N.	Hourly motion	$0' 37.6''$ N.
Moon's declination	$18^{\circ} 39' 8.0''$ S.	Hourly motion	$10' 26.5''$ S.
Sun's equa. hor. parallax	8.5	Sun's true semidiameter	15 49.6
Moon's equa. hor. parallax	54 22.3	Moon's true semidiameter	14 48.3

TIMES OF THE PHASES.

	Greenwich Mean Time.	Washington Mean Time.
Moon enters penumbra	May $\begin{smallmatrix} d & h & m \\ 11 & 7 & 54.4 \end{smallmatrix}$	May $\begin{smallmatrix} d & h & m \\ 11 & 2 & 46.2 \end{smallmatrix}$
Moon enters shadow	$\begin{smallmatrix} d & h & m \\ & 11 & 9 & 9.9 \end{smallmatrix}$	$\begin{smallmatrix} d & h & m \\ & 11 & 4 & 1.7 \end{smallmatrix}$
Middle of the eclipse	$\begin{smallmatrix} d & h & m \\ & 11 & 10 & 53.3 \end{smallmatrix}$	$\begin{smallmatrix} d & h & m \\ & 11 & 5 & 45.1 \end{smallmatrix}$
Moon leaves shadow	$\begin{smallmatrix} d & h & m \\ & 11 & 12 & 37.0 \end{smallmatrix}$	$\begin{smallmatrix} d & h & m \\ & 11 & 7 & 28.8 \end{smallmatrix}$
Moon leaves penumbra	$\begin{smallmatrix} d & h & m \\ & 11 & 13 & 52.8 \end{smallmatrix}$	$\begin{smallmatrix} d & h & m \\ & 11 & 8 & 44.6 \end{smallmatrix}$

CIRCUMSTANCES OF THE ECLIPSE.

Contacts of Shadow with moon's limb.	Angles of position from north point.	The moon being in the zenith in longitude from Greenwich	and in latitude.
First	83° to East.	$40^{\circ} 37'$ E.	$18^{\circ} 17'$ S.
Last	41° to West.	$9^{\circ} 35'$ W.	$18^{\circ} 52'$ S.
Magnitude of the eclipse = 0.959, (moon's diameter = 1).			

III.—*A Partial Eclipse of the Sun, 1892, October 20, visible at Washington.*

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, October 20				^d	^h	^m	^s
				5	34	46	.5
Sun and moon's R. A.	^h	^m	^s	13	43	15	.16
				Hourly motions			9.46 and 108.08
Sun's declination	[°]	[']	["]	10	41	55	.3 S.
				Hourly motion			0' 53.5 S.
Moon's declination	[°]	[']	["]	9	39	55	.1 S.
				Hourly motion			13 6.3 S.
Sun's equa. hor. parallax				8.6			Sun's true semidiameter
							16 4.7
Moon's equa. hor. parallax				54 1.8			Moon's true semidiameter
							14 42.7

CIRCUMSTANCES OF THE ECLIPSE.

				Longitude from Greenwich.		Latitude.	
	^d	^h	^m	[°]	[']	[°]	[']
Eclipse begins	October	20	4 15.4	133	16.5 W.	65	26.5 N.
Greatest eclipse		20	6 36.2	33	20.3 W.	61	35.2 N.
Eclipse ends		20	8 57.4	50	53.8 W.	14	34 N.

Magnitude of the eclipse = 0.906, (sun's diameter = 1).

IV.—*A Total Eclipse of the Moon, 1892, November 4, invisible at Washington.* The beginning visible generally in the north west portion of North America, the Pacific Ocean, Asia, and the easterly portions of Europe. The end visible generally in the north west Pacific Ocean, Australia, Asia, Europe (except England and Spain) and the east portions of Africa.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of δ in right ascension, November 4				^d	^h	^m	^s
				4	4	3	54.3
Sun's right ascension	^h	^m	^s	14	41	7.45	Hourly motion 9.93 ^s
Moon's right ascension	^h	^m	^s	2	41	7.45	Hourly motion 146.83
Sun's declination	[°]	[']	["]	15	40	11.6 S.	Hourly motion 0' 45.7 S.
Moon's declination	[°]	[']	["]	16	8	44.7 N.	Hourly motion 14 56.0 N.
Sun's equa. hor. parallax				8.7			Sun's true semidiameter 16 8.5
Moon's equa. hor. parallax				61 28.2			Moon's true semidiameter 16 44.2

TIMES OF THE PHASES.

	Greenwich Mean Time.				Washington Mean Time.			
	^d	^h	^m		^d	^h	^m	
Moon enters penumbra	November	4	1	10.4	November	3	20	2.2
Moon enters shadow		4	2	8.9		3	21	0.7
Total eclipse begins		4	3	22.0		3	22	13.8
Middle of the eclipse		4	3	44.9		3	22	36.7
Total eclipse ends		4	4	7.8		3	23	59.6
Moon leaves shadow		4	5	21.2		4	0	13.0
Moon leaves penumbra		4	6	20.2		4	1	12.0

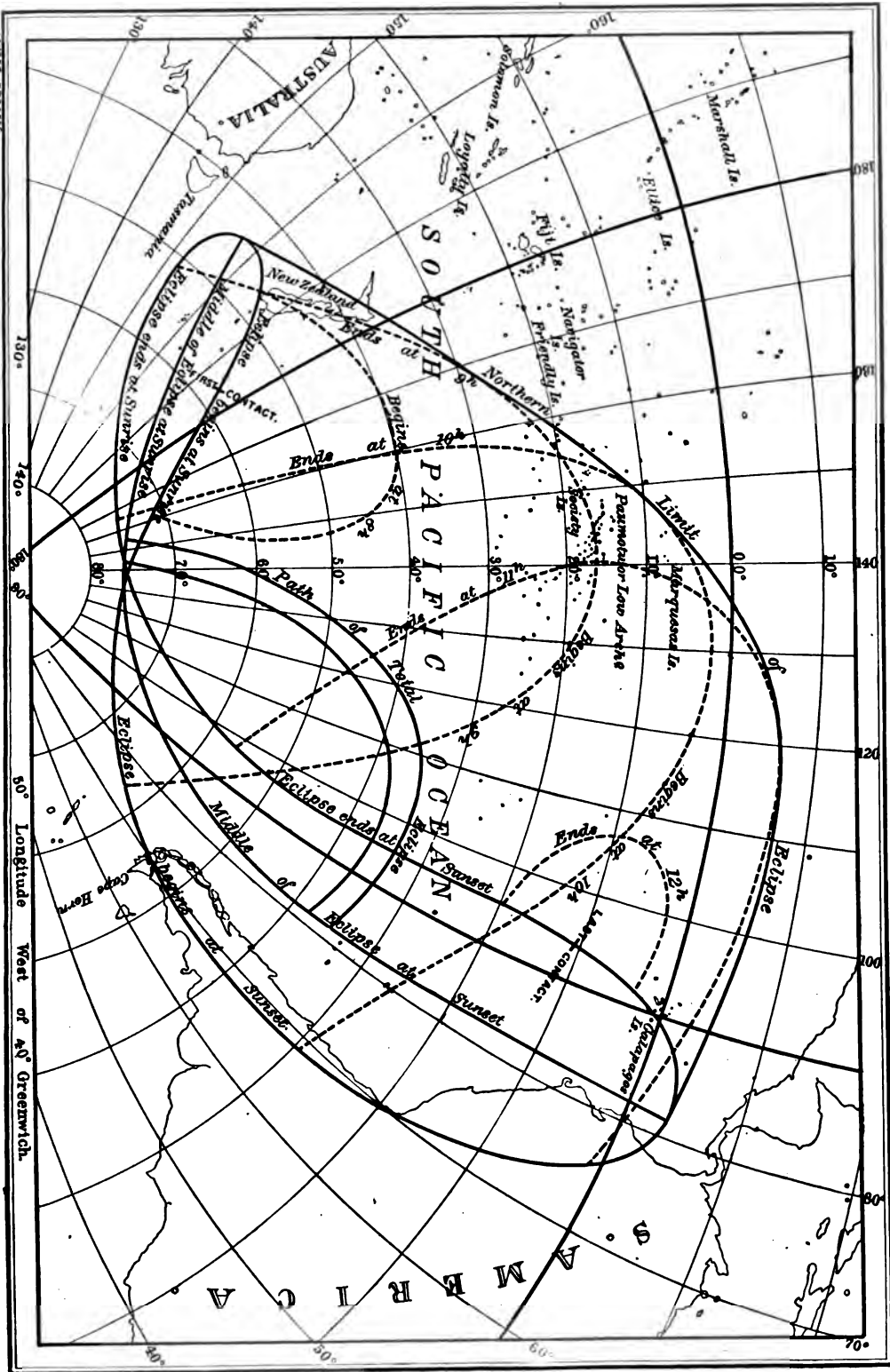
CIRCUMSTANCES OF THE ECLIPSE.

Contacts of Shadow with moon's limb.	Angles of position from north point.	The moon being in the zenith in longitude from Greenwich		and in latitude.
First	91° to East.	145°	7 E.	15° 40' N.
Last	138 to West.	98	52 E.	16 28 N.

Magnitude of the eclipse = 1.100, (moon's diameter = 1).

The regions within which the eclipses of the sun are visible, are laid down on the accompanying charts, from which, by means of the dotted lines, may also be found the Greenwich times of beginning and ending, within fifteen or twenty minutes.

TOTAL ECLIPSE OF APRIL 26th, 1892.



NOTE.—The hours of beginning and ending are expressed in Greenwich Mean Time.

By a table of common logarithms, or a table of logarithms of small arcs, the reduction of the Greenwich time would be found thus:—

From Ephemeris	P. L.	0.3029
Diff. of distances, $40' 29'' = 2429''$	log	3.3854
Red. of Greenwich time, $4879^s = 1^h 21^m 19^s$	log	3.6883

The result is the same as by the previous method.

Planetary Ephemerides.—Pages 218—247 contain the geocentric ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn. The ephemeris of each consists of its *Apparent Right Ascension* and *Declination*, with the *Variation for 1 Hour*, for Greenwich mean noon of each day; the *Mean Time of Meridian Passage*; and, at the bottom of the page, its *Semi-diameter* and *Horizontal Parallax*.

The right ascension and declination of a planet are required whenever it is observed for time, latitude or azimuth. The mode of reducing them to any instant of Greenwich mean time is the same as in the examples of the sun, previously given. The mean time of passage across any meridian can be found by dividing the daily difference by 24, and using the hourly difference thus obtained, as in the case of the moon; or, the reduction can be found by the proportion: As 24^h (or 360°) is to the longitude, so is the daily difference to the reduction required.

Positions of Fixed Stars.—Pages 248—250 contain the *Mean Places*, with their *Annual Variations*, of one hundred and fifty fixed stars for the beginning of the year 1892. The sign + indicates north declinations; the sign — indicates south declinations.

The right ascension of a star is also the sidereal time of its meridian passage. From this we may roughly find the mean time of meridian passage by adding the mean time of sidereal noon, on page III of the Calendar, or subtracting the sidereal time of mean noon on page II, (disregarding seconds); but we can find it more exactly by the processes already given for converting sidereal into mean time, the sidereal time being the right ascension of the star.

The right ascension and declination of a star are required whenever it is observed for time, latitude or azimuth. The mean places are sufficiently accurate for most observations at sea; but for more exact observations, the apparent places which are given in the larger volume of the Almanac, should be used.

Eclipses.—Pages 251—254 contain a brief statement of the eclipses in 1892. Pages 253 and 254 contain charts of the eclipses of the sun, which show the part of the world in which each is visible. Each of the dotted curves passes through places where the eclipse begins, or ends, at the hour or minute of Greenwich time which is marked on it. These curves aid in finding an approximate time of the beginning and end at places between them.

TABLE I.

CORRECTION REQUIRED, ON ACCOUNT OF SECOND DIFFERENCES OF THE MOON'S
MOTION, IN FINDING THE GREENWICH TIME CORRESPONDING
TO A CORRECTED LUNAR DISTANCE.

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
0	20	2	40	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	6	6	6	6
0	30	2	30	0	1	1	2	2	2	2	3	3	3	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9
0	40	2	20	0	1	1	2	2	3	3	3	4	4	5	5	6	6	6	7	7	8	8	9	9	10	10	10	11	11
0	50	2	10	1	1	2	2	3	3	4	4	5	5	5	6	6	7	7	8	8	9	9	10	10	11	12	12	13	13
1	0	2	0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	10	11	12	12	13	13	14	14
1	10	1	50	1	1	2	3	4	4	5	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	15	16	16
1	20	1	40	1	1	2	3	4	4	5	6	6	7	8	9	9	10	10	11	12	12	13	14	14	15	16	16	17	17
1	30	1	30	1	1	2	3	4	4	5	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100		
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	7	7	7
0	20	2	40	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12	12	12	12
0	30	2	30	9	10	10	10	11	11	12	12	12	13	13	13	14	14	14	14	15	15	16	16	16	17	17	17	17	17
0	40	2	20	12	12	13	13	13	14	14	15	15	16	16	16	17	17	18	18	19	19	19	20	20	20	21	21	22	22
0	50	2	10	14	14	15	15	16	16	16	17	17	18	19	19	20	20	21	21	22	22	22	23	23	24	24	25	25	25
1	0	2	0	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24	25	25	26	27	27	28	28	28
1	10	1	50	16	17	17	18	18	19	19	20	21	21	22	22	23	24	24	25	25	26	27	27	28	28	29	30	30	30
1	20	1	40	17	17	18	19	19	20	20	21	21	22	23	23	24	25	25	26	26	27	28	28	29	30	31	31	31	31
1	30	1	30	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29	29	30	31	31	31	31	31

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138							
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
0	20	2	40	13	13	13	13	14	14	14	14	15	15	15	15	15	16	16	16	16	16	16	16	16	16	17	17	17	17
0	30	2	30	18	18	18	19	19	19	20	20	20	21	21	21	22	22	22	23	23	23	24	24	24	24	24	24	24	24
0	40	2	20	22	22	23	23	24	24	25	25	25	26	26	27	27	28	28	28	29	29	29	30	30	30	30	30	30	30
0	50	2	10	26	26	26	27	27	28	29	29	29	30	30	31	31	32	32	33	33	33	34	34	34	34	34	34	34	34
1	0	2	0	28	29	29	30	30	31	31	32	33	33	34	34	35	35	36	36	37	37	37	38	38	38	38	38	38	38
1	10	1	50	30	31	31	32	32	33	34	34	35	35	36	37	37	38	38	39	39	40	40	41	41	41	41	41	41	41
1	20	1	40	31	32	33	33	34	34	35	35	36	37	38	38	39	39	40	41	41	42	42	43	43	43	43	43	43	43
1	30	1	30	32	32	33	34	34	35	35	36	36	37	38	39	39	40	40	41	42	42	43	43	43	43	43	43	43	43

The correction is to be added to the approximate Greenwich time when the proportional logarithms in the Ephemeris are decreasing, and subtracted when they are increasing.

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
0	0 0.0	0 9.8	0 19.7	0 29.5	0 39.3	0 49.1	0 59.0	1 8.8	1 18.6	1 28.5	1 38.3	1 48.1
1	0 0.2	0 10.0	0 19.8	0 29.7	0 39.5	0 49.3	0 59.1	1 9.0	1 18.8	1 28.6	1 38.5	1 48.3
2	0 0.3	0 10.2	0 20.0	0 29.8	0 39.6	0 49.5	0 59.3	1 9.1	1 19.0	1 28.8	1 38.6	1 48.5
3	0 0.5	0 10.3	0 20.2	0 30.0	0 39.8	0 49.6	0 59.5	1 9.3	1 19.1	1 29.0	1 38.8	1 48.6
4	0 0.7	0 10.5	0 20.3	0 30.1	0 40.0	0 49.8	0 59.6	1 9.5	1 19.3	1 29.1	1 39.0	1 48.8
5	0 0.8	0 10.6	0 20.5	0 30.3	0 40.1	0 50.0	0 59.8	1 9.6	1 19.5	1 29.3	1 39.1	1 48.9
6	0 1.0	0 10.8	0 20.6	0 30.5	0 40.3	0 50.1	1 0.0	1 9.8	1 19.6	1 29.4	1 39.3	1 49.1
7	0 1.1	0 11.0	0 20.8	0 30.6	0 40.5	0 50.3	1 0.1	1 10.0	1 19.8	1 29.6	1 39.4	1 49.3
8	0 1.3	0 11.1	0 21.0	0 30.8	0 40.6	0 50.5	1 0.3	1 10.1	1 19.9	1 29.8	1 39.6	1 49.4
9	0 1.5	0 11.3	0 21.1	0 31.0	0 40.8	0 50.6	1 0.5	1 10.3	1 20.1	1 29.9	1 39.8	1 49.6
10	0 1.6	0 11.5	0 21.3	0 31.1	0 41.0	0 50.8	1 0.6	1 10.4	1 20.3	1 30.1	1 39.9	1 49.8
11	0 1.8	0 11.6	0 21.5	0 31.3	0 41.1	0 51.0	1 0.8	1 10.6	1 20.4	1 30.3	1 40.1	1 49.9
12	0 2.0	0 11.8	0 21.6	0 31.5	0 41.3	0 51.1	1 0.9	1 10.8	1 20.6	1 30.4	1 40.3	1 50.1
13	0 2.1	0 12.0	0 21.8	0 31.6	0 41.4	0 51.3	1 1.1	1 10.9	1 20.8	1 30.6	1 40.4	1 50.3
14	0 2.3	0 12.1	0 22.0	0 31.8	0 41.6	0 51.4	1 1.3	1 11.1	1 20.9	1 30.8	1 40.6	1 50.4
15	0 2.5	0 12.3	0 22.1	0 31.9	0 41.8	0 51.6	1 1.4	1 11.3	1 21.1	1 30.9	1 40.8	1 50.6
16	0 2.6	0 12.5	0 22.3	0 32.1	0 41.9	0 51.8	1 1.6	1 11.4	1 21.3	1 31.1	1 40.9	1 50.7
17	0 2.8	0 12.6	0 22.4	0 32.3	0 42.1	0 51.9	1 1.8	1 11.6	1 21.4	1 31.3	1 41.1	1 50.9
18	0 2.9	0 12.8	0 22.6	0 32.4	0 42.3	0 52.1	1 1.9	1 11.8	1 21.6	1 31.4	1 41.2	1 51.1
19	0 3.1	0 12.9	0 22.8	0 32.6	0 42.4	0 52.3	1 2.1	1 11.9	1 21.7	1 31.6	1 41.4	1 51.2
20	0 3.3	0 13.1	0 22.9	0 32.8	0 42.6	0 52.4	1 2.3	1 12.1	1 21.9	1 31.7	1 41.6	1 51.4
21	0 3.4	0 13.3	0 23.1	0 32.9	0 42.8	0 52.6	1 2.4	1 12.2	1 22.1	1 31.9	1 41.7	1 51.6
22	0 3.6	0 13.4	0 23.3	0 33.1	0 42.9	0 52.8	1 2.6	1 12.4	1 22.2	1 32.1	1 41.9	1 51.7
23	0 3.8	0 13.6	0 23.4	0 33.3	0 43.1	0 52.9	1 2.7	1 12.6	1 22.4	1 32.2	1 42.1	1 51.9
24	0 3.9	0 13.8	0 23.6	0 33.4	0 43.2	0 53.1	1 2.9	1 12.7	1 22.6	1 32.4	1 42.2	1 52.1
25	0 4.1	0 13.9	0 23.8	0 33.6	0 43.4	0 53.2	1 3.1	1 12.9	1 22.7	1 32.6	1 42.4	1 52.2
26	0 4.3	0 14.1	0 23.9	0 33.7	0 43.6	0 53.4	1 3.2	1 13.1	1 22.9	1 32.7	1 42.6	1 52.4
27	0 4.4	0 14.3	0 24.1	0 33.9	0 43.7	0 53.6	1 3.4	1 13.2	1 23.1	1 32.9	1 42.7	1 52.5
28	0 4.6	0 14.4	0 24.2	0 34.1	0 43.9	0 53.7	1 3.6	1 13.4	1 23.2	1 33.1	1 42.9	1 52.7
29	0 4.8	0 14.6	0 24.4	0 34.2	0 44.1	0 53.9	1 3.7	1 13.6	1 23.4	1 33.2	1 43.0	1 52.9
30	0 4.9	0 14.7	0 24.6	0 34.4	0 44.2	0 54.1	1 3.9	1 13.7	1 23.6	1 33.4	1 43.2	1 53.0
31	0 5.1	0 14.9	0 24.7	0 34.6	0 44.4	0 54.2	1 4.1	1 13.9	1 23.7	1 33.5	1 43.4	1 53.2
32	0 5.2	0 15.1	0 24.9	0 34.7	0 44.6	0 54.4	1 4.2	1 14.0	1 23.9	1 33.7	1 43.5	1 53.4
33	0 5.4	0 15.2	0 25.1	0 34.9	0 44.7	0 54.6	1 4.4	1 14.2	1 24.0	1 33.9	1 43.7	1 53.5
34	0 5.6	0 15.4	0 25.2	0 35.1	0 44.9	0 54.7	1 4.5	1 14.4	1 24.2	1 34.0	1 43.9	1 53.7
35	0 5.7	0 15.6	0 25.4	0 35.2	0 45.1	0 54.9	1 4.7	1 14.5	1 24.4	1 34.2	1 44.0	1 53.9
36	0 5.9	0 15.7	0 25.6	0 35.4	0 45.2	0 55.0	1 4.9	1 14.7	1 24.5	1 34.4	1 44.2	1 54.0
37	0 6.1	0 15.9	0 25.7	0 35.6	0 45.4	0 55.2	1 5.0	1 14.9	1 24.7	1 34.5	1 44.4	1 54.2
38	0 6.2	0 16.1	0 25.9	0 35.7	0 45.5	0 55.4	1 5.2	1 15.0	1 24.9	1 34.7	1 44.5	1 54.4
39	0 6.4	0 16.2	0 26.0	0 35.9	0 45.7	0 55.5	1 5.4	1 15.2	1 25.0	1 34.9	1 44.7	1 54.5
40	0 6.6	0 16.4	0 26.2	0 36.0	0 45.9	0 55.7	1 5.5	1 15.4	1 25.2	1 35.0	1 44.8	1 54.7
41	0 6.7	0 16.5	0 26.4	0 36.2	0 46.0	0 55.9	1 5.7	1 15.5	1 25.4	1 35.2	1 45.0	1 54.8
42	0 6.9	0 16.7	0 26.5	0 36.4	0 46.2	0 56.0	1 5.9	1 15.7	1 25.5	1 35.3	1 45.2	1 55.0
43	0 7.0	0 16.9	0 26.7	0 36.5	0 46.4	0 56.2	1 6.0	1 15.9	1 25.7	1 35.5	1 45.3	1 55.2
44	0 7.2	0 17.0	0 26.9	0 36.7	0 46.5	0 56.4	1 6.2	1 16.0	1 25.8	1 35.7	1 45.5	1 55.3
45	0 7.4	0 17.2	0 27.0	0 36.9	0 46.7	0 56.5	1 6.4	1 16.2	1 26.0	1 35.8	1 45.7	1 55.5
46	0 7.5	0 17.4	0 27.2	0 37.0	0 46.9	0 56.7	1 6.5	1 16.3	1 26.2	1 36.0	1 45.8	1 55.7
47	0 7.7	0 17.5	0 27.4	0 37.2	0 47.0	0 56.8	1 6.7	1 16.5	1 26.3	1 36.2	1 46.0	1 55.8
48	0 7.9	0 17.7	0 27.5	0 37.4	0 47.2	0 57.0	1 6.8	1 16.7	1 26.5	1 36.3	1 46.2	1 56.0
49	0 8.0	0 17.9	0 27.7	0 37.5	0 47.3	0 57.2	1 7.0	1 16.8	1 26.7	1 36.5	1 46.3	1 56.2
50	0 8.2	0 18.0	0 27.8	0 37.7	0 47.5	0 57.3	1 7.2	1 17.0	1 26.8	1 36.7	1 46.5	1 56.3
51	0 8.4	0 18.2	0 28.0	0 37.8	0 47.7	0 57.5	1 7.3	1 17.2	1 27.0	1 36.8	1 46.7	1 56.5
52	0 8.5	0 18.3	0 28.2	0 38.0	0 47.8	0 57.7	1 7.5	1 17.3	1 27.2	1 37.0	1 46.8	1 56.6
53	0 8.7	0 18.5	0 28.3	0 38.2	0 48.0	0 57.8	1 7.7	1 17.5	1 27.3	1 37.1	1 47.0	1 56.8
54	0 8.8	0 18.7	0 28.5	0 38.3	0 48.2	0 58.0	1 7.8	1 17.7	1 27.5	1 37.3	1 47.1	1 57.0
55	0 9.0	0 18.8	0 28.7	0 38.5	0 48.3	0 58.2	1 8.0	1 17.8	1 27.6	1 37.5	1 47.3	1 57.1
56	0 9.2	0 19.0	0 28.8	0 38.7	0 48.5	0 58.3	1 8.2	1 18.0	1 27.8	1 37.6	1 47.5	1 57.3
57	0 9.3	0 19.2	0 29.0	0 38.8	0 48.7	0 58.5	1 8.3	1 18.1	1 28.0	1 37.8	1 47.6	1 57.5
58	0 9.5	0 19.3	0 29.2	0 39.0	0 48.8	0 58.6	1 8.5	1 18.3	1 28.1	1 38.0	1 47.8	1 57.6
59	0 9.7	0 19.5	0 29.3	0 39.2	0 49.0	0 58.8	1 8.6	1 18.5	1 28.3	1 38.1	1 48.0	1 57.8
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h
m	m s	m s	m s	m s	m s	m s	m s	m s	m s	m s	m s	m s
0	1 58.0	2 7.8	2 17.6	2 27.4	2 37.3	2 47.1	2 56.9	3 6.8	3 16.6	3 26.4	3 36.2	3 46.1
1	1 58.1	2 7.9	2 17.8	2 27.6	2 37.4	2 47.3	2 57.1	3 6.9	3 16.8	3 26.6	3 36.4	3 46.2
2	1 58.3	2 8.1	2 17.9	2 27.8	2 37.6	2 47.4	2 57.3	3 7.1	3 16.9	3 26.7	3 36.6	3 46.4
3	1 58.4	2 8.3	2 18.1	2 27.9	2 37.8	2 47.6	2 57.4	3 7.2	3 17.1	3 26.9	3 36.7	3 46.6
4	1 58.6	2 8.4	2 18.3	2 28.1	2 37.9	2 47.8	2 57.6	3 7.4	3 17.2	3 27.1	3 36.9	3 46.7
5	1 58.8	2 8.6	2 18.4	2 28.3	2 38.1	2 47.9	2 57.8	3 7.6	3 17.4	3 27.2	3 37.1	3 46.9
6	1 58.9	2 8.8	2 18.6	2 28.4	2 38.3	2 48.0	2 57.9	3 7.7	3 17.6	3 27.4	3 37.2	3 47.1
7	1 59.1	2 8.9	2 18.8	2 28.6	2 38.4	2 48.2	2 58.1	3 7.9	3 17.7	3 27.6	3 37.4	3 47.2
8	1 59.3	2 9.1	2 18.9	2 28.8	2 38.6	2 48.4	2 58.2	3 8.1	3 17.9	3 27.7	3 37.6	3 47.4
9	1 59.4	2 9.3	2 19.1	2 28.9	2 38.7	2 48.6	2 58.4	3 8.2	3 18.1	3 27.9	3 37.7	3 47.6
10	1 59.6	2 9.4	2 19.3	2 29.1	2 38.9	2 48.7	2 58.6	3 8.4	3 18.2	3 28.1	3 37.9	3 47.7
11	1 59.8	2 9.6	2 19.4	2 29.2	2 39.1	2 48.9	2 58.7	3 8.6	3 18.4	3 28.2	3 38.1	3 47.9
12	1 59.9	2 9.8	2 19.6	2 29.4	2 39.2	2 49.1	2 58.9	3 8.7	3 18.6	3 28.4	3 38.2	3 48.0
13	2 0.1	2 9.9	2 19.7	2 29.6	2 39.4	2 49.2	2 59.1	3 8.9	3 18.7	3 28.6	3 38.4	3 48.2
14	2 0.2	2 10.1	2 19.9	2 29.7	2 39.6	2 49.4	2 59.2	3 9.1	3 18.9	3 28.7	3 38.5	3 48.4
15	2 0.4	2 10.2	2 20.1	2 29.9	2 39.7	2 49.6	2 59.4	3 9.2	3 19.0	3 28.9	3 38.7	3 48.5
16	2 0.6	2 10.4	2 20.2	2 30.1	2 39.9	2 49.7	2 59.6	3 9.4	3 19.2	3 29.0	3 38.9	3 48.7
17	2 0.7	2 10.6	2 20.4	2 30.2	2 40.1	2 49.9	2 59.7	3 9.5	3 19.4	3 29.2	3 39.0	3 48.9
18	2 0.9	2 10.7	2 20.6	2 30.4	2 40.2	2 50.1	2 59.9	3 9.7	3 19.5	3 29.4	3 39.2	3 49.0
19	2 1.1	2 10.9	2 20.7	2 30.6	2 40.4	2 50.2	3 0.0	3 9.9	3 19.7	3 29.5	3 39.4	3 49.2
20	2 1.2	2 11.1	2 20.9	2 30.7	2 40.5	2 50.4	3 0.2	3 10.0	3 19.9	3 29.7	3 39.5	3 49.4
21	2 1.4	2 11.2	2 21.1	2 30.9	2 40.7	2 50.5	3 0.4	3 10.2	3 20.0	3 29.9	3 39.7	3 49.5
22	2 1.6	2 11.4	2 21.2	2 31.0	2 40.9	2 50.7	3 0.5	3 10.4	3 20.2	3 30.0	3 39.9	3 49.7
23	2 1.7	2 11.6	2 21.4	2 31.2	2 41.0	2 50.9	3 0.7	3 10.5	3 20.4	3 30.2	3 40.0	3 49.8
24	2 1.9	2 11.7	2 21.5	2 31.4	2 41.2	2 51.0	3 0.9	3 10.7	3 20.5	3 30.4	3 40.2	3 50.0
25	2 2.0	2 11.9	2 21.7	2 31.5	2 41.4	2 51.2	3 1.0	3 10.9	3 20.7	3 30.5	3 40.3	3 50.2
26	2 2.2	2 12.0	2 21.9	2 31.7	2 41.5	2 51.4	3 1.2	3 11.0	3 20.9	3 30.7	3 40.5	3 50.3
27	2 2.4	2 12.2	2 22.0	2 31.9	2 41.7	2 51.5	3 1.4	3 11.2	3 21.0	3 30.8	3 40.7	3 50.5
28	2 2.5	2 12.4	2 22.2	2 32.0	2 41.9	2 51.7	3 1.5	3 11.3	3 21.2	3 31.0	3 40.8	3 50.7
29	2 2.7	2 12.5	2 22.4	2 32.2	2 42.0	2 51.9	3 1.7	3 11.5	3 21.3	3 31.2	3 41.0	3 50.8
30	2 2.9	2 12.7	2 22.5	2 32.4	2 42.2	2 52.0	3 1.8	3 11.7	3 21.5	3 31.3	3 41.2	3 51.0
31	2 3.0	2 12.9	2 22.7	2 32.5	2 42.4	2 52.2	3 2.0	3 11.8	3 21.7	3 31.5	3 41.3	3 51.2
32	2 3.2	2 13.0	2 22.9	2 32.7	2 42.5	2 52.3	3 2.2	3 12.0	3 21.8	3 31.7	3 41.5	3 51.3
33	2 3.4	2 13.2	2 23.0	2 32.8	2 42.7	2 52.5	3 2.3	3 12.2	3 22.0	3 31.8	3 41.7	3 51.5
34	2 3.5	2 13.4	2 23.2	2 33.0	2 42.8	2 52.7	3 2.5	3 12.3	3 22.2	3 32.0	3 41.8	3 51.6
35	2 3.7	2 13.5	2 23.3	2 33.2	2 43.0	2 52.8	3 2.7	3 12.5	3 22.3	3 32.2	3 42.0	3 51.8
36	2 3.9	2 13.7	2 23.5	2 33.3	2 43.2	2 53.0	3 2.8	3 12.7	3 22.5	3 32.3	3 42.1	3 52.0
37	2 4.0	2 13.8	2 23.7	2 33.5	2 43.3	2 53.2	3 3.0	3 12.8	3 22.7	3 32.5	3 42.3	3 52.1
38	2 4.2	2 14.0	2 23.8	2 33.7	2 43.5	2 53.3	3 3.2	3 13.0	3 22.8	3 32.6	3 42.5	3 52.3
39	2 4.3	2 14.2	2 24.0	2 33.8	2 43.7	2 53.5	3 3.3	3 13.2	3 23.0	3 32.8	3 42.6	3 52.5
40	2 4.5	2 14.3	2 24.2	2 34.0	2 43.8	2 53.7	3 3.5	3 13.3	3 23.1	3 33.0	3 42.8	3 52.6
41	2 4.7	2 14.5	2 24.3	2 34.2	2 44.0	2 53.8	3 3.6	3 13.5	3 23.3	3 33.1	3 43.0	3 52.8
42	2 4.8	2 14.7	2 24.5	2 34.3	2 44.2	2 54.0	3 3.8	3 13.6	3 23.5	3 33.3	3 43.1	3 53.0
43	2 5.0	2 14.8	2 24.7	2 34.5	2 44.3	2 54.1	3 4.0	3 13.8	3 23.6	3 33.5	3 43.3	3 53.1
44	2 5.2	2 15.0	2 24.8	2 34.7	2 44.5	2 54.3	3 4.1	3 14.0	3 23.8	3 33.6	3 43.5	3 53.3
45	2 5.3	2 15.2	2 25.0	2 34.8	2 44.6	2 54.5	3 4.3	3 14.1	3 24.0	3 33.8	3 43.6	3 53.5
46	2 5.5	2 15.3	2 25.2	2 35.0	2 44.8	2 54.6	3 4.5	3 14.3	3 24.1	3 34.0	3 43.8	3 53.6
47	2 5.7	2 15.5	2 25.3	2 35.1	2 45.0	2 54.8	3 4.6	3 14.5	3 24.3	3 34.1	3 44.0	3 53.8
48	2 5.8	2 15.6	2 25.5	2 35.3	2 45.1	2 55.0	3 4.8	3 14.6	3 24.5	3 34.3	3 44.1	3 53.9
49	2 6.0	2 15.8	2 25.6	2 35.5	2 45.3	2 55.1	3 5.0	3 14.8	3 24.6	3 34.4	3 44.3	3 54.1
50	2 6.1	2 16.0	2 25.8	2 35.6	2 45.5	2 55.3	3 5.1	3 15.0	3 24.8	3 34.6	3 44.4	3 54.3
51	2 6.3	2 16.1	2 26.0	2 35.8	2 45.6	2 55.5	3 5.3	3 15.1	3 24.9	3 34.8	3 44.6	3 54.4
52	2 6.5	2 16.3	2 26.1	2 36.0	2 45.8	2 55.6	3 5.5	3 15.3	3 25.1	3 34.9	3 44.8	3 54.6
53	2 6.6	2 16.5	2 26.3	2 36.1	2 46.0	2 55.8	3 5.6	3 15.4	3 25.3	3 35.1	3 44.9	3 54.8
54	2 6.8	2 16.6	2 26.5	2 36.3	2 46.1	2 55.9	3 5.8	3 15.6	3 25.4	3 35.3	3 45.1	3 54.9
55	2 7.0	2 16.8	2 26.6	2 36.5	2 46.3	2 56.1	3 5.9	3 15.8	3 25.6	3 35.4	3 45.3	3 55.1
56	2 7.1	2 17.0	2 26.8	2 36.6	2 46.4	2 56.3	3 6.1	3 15.9	3 25.8	3 35.6	3 45.4	3 55.3
57	2 7.3	2 17.1	2 27.0	2 36.8	2 46.6	2 56.4	3 6.3	3 16.1	3 25.9	3 35.8	3 45.6	3 55.4
58	2 7.5	2 17.3	2 27.1	2 36.9	2 46.8	2 56.6	3 6.4	3 16.3	3 26.1	3 35.9	3 45.8	3 55.6
59	2 7.6	2 17.4	2 27.3	2 37.1	2 46.9	2 56.8	3 6.6	3 16.4	3 26.3	3 36.1	3 45.9	3 55.7
Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h

A *Sidereal Day* is the interval of time between the transit of the vernal equinox over the meridian, and its next succeeding return to the same meridian. It is about $3^m 56^s$ shorter than the mean solar day; $365\frac{1}{4}$ solar days, or a year, being divided into $366\frac{1}{4}$ sidereal days. It is divided into 24 hours. The sidereal hours are counted from 0 to 24, commencing with the instant of the passage of the true vernal equinox over the upper meridian, and ending with its return to the same meridian. About March 21st of each year the sidereal clock agrees with the mean time, or ordinary clock, and the former gains on the latter about $3^m 56^s$ per day, so that at the end of a year it will have gained an entire day, and will again agree with the mean time clock.

Day.—The *Civil Day*, according to the customs of society, commences at midnight, and comprises twenty-four hours from one midnight to the next following. The hours are counted from 0 to 12 from midnight to noon, after which they are again reckoned from 0 to 12 from noon to midnight. Thus the day is divided into two periods of 12 hours each, of which the first is marked A. M., and the last is marked P. M.

The *Astronomical Day* commences at noon on the civil day of the same date. It also comprises twenty-four hours, but they are reckoned from 0 to 24, and from the noon of one day to that of the next following. The astronomical as well as the civil time may be either apparent or mean, according as it is reckoned from apparent noon or from mean noon.

The civil day begins twelve hours before the astronomical day; therefore the first period of the civil day answers to the last part of the preceding astronomical day, and the last period of the civil day corresponds to the first part of the same astronomical day. Thus, January 9th, 2 o'clock, A. M., civil time, is January 8th, 14^h, astronomical time; and January 9th, 2 o'clock, P. M., civil time, is also January 9th, 2^h, astronomical time. The rule, then, for the transformation of civil time into astronomical time is this:—*If the civil time is marked A. M., take one from the day and add twelve to the hours, and the result is the astronomical time wanted; if the civil time is marked P. M., take away the designation P. M., and the astronomical time is had without further change.*

To change astronomical to civil time, we simply write P. M. after it, if it is less than 12 hours. If greater than 12 hours, we subtract 12 hours from it, add 1 to the days, and write A. M. For example, January 3d, 23 hours, astronomical time, is January 4th, 11 o'clock, A. M. civil time.

If the longitude from Greenwich be expressed in time, and, when *west*, added to the local time, or, when *east*, subtracted from the local time, the result is the corresponding Greenwich time. If the local mean time is used, the result is the Greenwich mean time, which ordinarily is that required for the use of this Ephemeris. The rule is the same, whether we use mean or sidereal time.

THE CALENDAR.

The Calendar is divided into twelve months, and to each month are assigned eighteen pages, the contents of which are as follow:—

Page I contains, for Greenwich apparent noon of each day, *The Sun's Apparent Right Ascension and Declination*, and the *Equation of Time*. Adjoining columns contain the differences of these quantities for one hour. By multiplying this difference by the hours and parts of an hour from Greenwich apparent noon, and adding the amount to, or subtracting it from, the quantity at noon, according as that quantity is increasing or decreasing, we obtain the value of any quantity for any given Greenwich apparent time. The hourly differences are given for the instant of apparent noon at Greenwich, and, when greater accuracy is required, should be first interpolated for half the hours and parts of an hour of the Greenwich apparent time.

This page is chiefly used when the sun is observed on the meridian, and the local apparent time is $0^h 0^m 0^s$. The longitude from Greenwich expressed in time, if *west*, is at that instant the Greenwich apparent time, or time after Greenwich apparent noon; if *east*, it is time before

Greenwich apparent noon. The longitude of any place is therefore employed in reducing the quantities on this page to apparent noon at the place.

The right ascension of the sun thus reduced is the sidereal time of local apparent noon. The difference between it and the clock time of the meridian passage of the sun is the error of the clock on sidereal time.

The declination of the sun reduced to the meridian, or apparent noon, of the place, is required in finding the latitude from a meridian altitude of the sun.

As an example of the use of page I:—

Let the sun's declination be required at apparent noon, 1892, May 31, at a place whose longitude is $179^{\circ} 40'$, or $11^{\text{h}} 58^{\text{m}} 40^{\text{s}}$ east from Greenwich:

Local apparent time	May 31,	0	0	0
Longitude from Greenwich (subtractive)		11	58	40
Greenwich apparent time	May 30,	12	1	20

Reducing the minutes and seconds to decimals of an hour, we find that this moment is $12^{\text{h}}.022$ after Greenwich apparent noon on May 30, or $11^{\text{h}}.978$ before Greenwich apparent noon on May 31.

On page 74 of the Ephemeris we find that the change of declination in one hour is

May 30, at Greenwich apparent noon	21'.61
May 31, at Greenwich apparent noon	20.65
Difference for one day	0.96

If we want to be very exact, we find the amount of this hourly difference for the time which is half way between Greenwich noon and the time of observation; that is, for 6 hours after Greenwich noon of the 30th, this being half of 12 hours. Six hours is 0.25 of a day; so the calculation is as follows:—

Difference for one hour, May 30	21'.61
Change for 0.25 of a day or $0''.96 \times 0.25$	0.24
Difference at 6 hours after noon	21.85
$21''.85 \times 12.022 = 262''.7 = 4' 22''.7$	
Declination at Greenwich noon, May 30	N. $21^{\circ} 53' 11''.9$
Change in 12.022 hours (additive)	4 22.7
Sun's declination at time of observation	N. $21^{\circ} 57' 34.6$

When the time of observation is only a few hours before Greenwich noon, it may be better to count the longitude backward from this nearest noon. Thus, in the example just given, the time is $11^{\text{h}}.978$ before Greenwich noon of May 31; half this interval is about 0.25 of a day, and the hourly motion for the middle of the interval is $20''.42$. Then, we find:—

Declination at Greenwich noon, May 31	N. $22^{\circ} 1' 30''.3$
Product of $20''.42 \times 11.978 = 244''.6$ (subtractive)	4 4.6
Sun's declination at time of observation	N. $21^{\circ} 57' 34.7$

It will always be well to make the calculation by both methods, as their agreement will show both to be right.

At sea it is ordinarily sufficient to have the declination to the nearest half minute, and the reduction may be found by Table V of Bowditch's *American Practical Navigator*.

The equation of time, as has been before explained, is the number of minutes and seconds to be added to or subtracted from the apparent time, or the time given by an observation of the sun, to obtain the mean time. The heading of the column directs the manner in which the equation is to be applied. When there is a change in the course of the month from addition to subtraction or the reverse (as in the months of April and June), the two different directions are separated by a line, while a corresponding line below points out the dates between which the change takes place. The equation of time, as given on page I, is the mean time of apparent noon, or the hour-angle of the mean sun at that instant.

The Sun's Semidiameter and the *Sidereal Time of Semidiameter Passing Meridian* are also given on page I. The sun's semidiameter is used in reducing the altitude of the upper or lower limb of the sun to the altitude of the center; and in reducing the angular distance of the limb from the moon or some other object, to the distance from the center of the sun. The sidereal time of semidiameter passing the meridian is employed in obtaining the passage of the sun's center over the wires of a transit-instrument, when the passage of one limb only has been observed. The quantity found in this column is to be added to the time of transit of the first, or western, limb; and to be subtracted from the time of transit of the second, or eastern, limb.

Page II contains, for Greenwich mean noon of each day, *The Sun's Apparent Right Ascension*, and *Declination*, the *Equation of Time*, and the *Sidereal Time of Mean Noon*. The hourly changes of these quantities are also given, and may be used in reducing them to any Greenwich mean time. The hourly changes may be first interpolated for half the Greenwich time, when great precision is required, in the way described in explaining the calculation of the declination.

The right ascension and declination on pages I and II are affected by aberration, and therefore denote the *apparent* position of the *true* sun. Page II is more conveniently used when the mean time is known. This is the case in most observations of the sun out of the meridian, when the times have been noted by a clock or chronometer regulated to mean time. The quantities on this page can be reduced to mean noon of any place by interpolating for the longitude, as in the example of the sun's declination on the preceding page.

The sun's declination is required for finding the latitude of the place, the local time, and the sun's azimuth and amplitude, from observations of the sun.

The equation of time is needed in finding the mean time from observations of the sun, and the latitude from observations out of the meridian. The heading of the column directs the manner in which it is to be applied to mean time to obtain the apparent time.

The equation of time, as given on page II, is the apparent time of mean noon; and is equivalent to the hour-angle of the true sun at the instant of mean noon.

The sidereal time of mean noon is also the right ascension of the mean sun at Greenwich mean noon. It may be reduced for the longitude, or to any Greenwich mean time, by using the hourly difference, $9^{\circ}.8565$; or by Table III, appended to this volume, for reducing intervals of mean solar to sidereal time. Table LI of BOWDITCH'S *Navigator* may be used for the same purpose when only the nearest quarter of a second is required.

The sun's right ascension and the sidereal time of mean noon, or right ascension of the mean sun, are useful in converting mean time to sidereal time. We first find the Greenwich mean time, then the R. A. of the mean sun for this time, as last explained: this being added to the local mean time will give the sidereal time.

The sidereal time of mean noon, reduced for the longitude of the place, is also used in converting sidereal time to mean time. Subtracting the reduced value from the given sidereal time, gives the interval of sidereal time from noon. Subtracting from this the corresponding reduction of a sidereal interval to a mean time interval, in Table II, appended to this volume, or Table LII of BOWDITCH'S *Navigator*, will give the mean time required. This reduction may also be found by multiplying $9^{\circ}.8296$ by the hours and parts of an hour of the given sidereal time.

As examples of the use of page II:—

1.—Let the sun's right ascension and the equation of time be required for 1892, May 15, $9^{\text{h}} 2^{\text{m}} 30^{\text{s}}$, A. M., mean time, at a place whose longitude is $100^{\circ} 10'$, or $6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$, west of Greenwich.

Local astronomical mean time	.	.	.	May 14,	$21^{\text{h}} 2^{\text{m}} 30^{\text{s}}$
Longitude from Greenwich (additive)	.	.	.	.	$6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$
Greenwich mean time.	.	.	.	May 15,	$3^{\text{h}} 43^{\text{m}} 10^{\text{s}} = 3^{\text{h}}.7194$

<i>Sun's Right Ascension.</i>			<i>Equation of Time.</i>		
May 15, Greenwich noon	^h 3	^m 30 ^s 52.13	May 15, noon	^m 3	^s 49.63 (additive)
H. D. $9^{\text{m}}.890 \times 3.7194$	^h +	0 36.78	H. D. $-0^{\text{m}}.033 \times 3.72$	^s -	0.12
	3	31 28.91		3	49.51

In this case, the hourly differences interpolated to half the interval, or $1^{\text{h}}.9$ after noon, have been used.

The equation of time in this example is additive to mean time. Its reduction could also have been found by Table VI, A., of BOWDITCH'S *Navigators*, but to seconds only.

2.—If the sidereal time is required for the same date and time, we have:—

May 15, Sidereal Time (at Greenwich mean noon)	^h 3	^m 34 ^s 41.76
Hourly difference $9^{\text{m}}.8565 \times 3.7194$	^h +	0 36.66
Add the local astronomical mean time	21	2 30.00
The required sidereal time is (rejecting 24^{h})	0	37 48.42

The reduction $0^{\text{m}} 36^{\text{s}}.66$ could have been found in Table III corresponding to the Greenwich mean time $3^{\text{h}} 43^{\text{m}} 10^{\text{s}}$. Also, by Table LI of BOWDITCH'S *Navigators*, the reduction is $0^{\text{m}} 36^{\text{s}}.7$.

3.—On 1892, May 15, A. M., at a place whose longitude is $100^{\circ} 10' \text{ W.}$, suppose the sidereal time to be $0^{\text{h}} 36^{\text{m}} 37^{\text{s}}.16$, and that the corresponding mean time is required.

The astronomical day is May 14; the longitude in time, $+6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$, or $+6^{\text{h}}.678$.

May 14, Sidereal Time (at Greenwich mean noon)	^h 3	^m 30 ^s 45.20
The H. D. $9^{\text{m}}.8565 \times 6.678$, or the reduction for $6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$ in Table III	^h +	1 5.82
The sidereal time of local mean noon	3	31 51.02
The given sidereal time ($+24^{\text{h}}$, if necessary for the following subtraction)	24	36 37.16
Subtracting the first from the second gives the sidereal interval from noon	21	4 46.14 = $21^{\text{h}}.0795$
$-9^{\text{m}}.8296 \times 21.0795$, or the reduction for $21^{\text{h}} 4^{\text{m}} 46^{\text{s}}.14$ in Table II	^h -	3 27.20
The required astronomical mean time is	May 14,	21 1 18.94

Page III contains, for Greenwich mean noon of each day, *The Sun's True Longitude* and *Latitude*, and the *Logarithm of the Radius Vector of the Earth*. The longitudes of the sun are the true longitudes, not corrected for aberration. The longitude is given in two columns, headed λ and λ' ; λ representing the sun's longitude counted from the true equinox of the date; and λ' , the same co-ordinate counted from the mean equinox of the beginning of the year, (January $0^{\text{d}}.0$). A column of hourly differences enables the computer to obtain the sun's longitude for any hour from noon. The hourly differences of the logarithm of the radius vector are likewise given. The latitude is referred to the ecliptic of the date.

The last column on page III contains the *Mean Time of Sidereal Noon*; that is, the number of hours, minutes and seconds after Greenwich mean noon when the first point of Aries passes the meridian of Greenwich. It may be reduced to any meridian by interpolating for the longitude, or to any Greenwich sidereal time by means of the hourly difference, $-9^{\text{m}}.8296$. The reduction, however, can be taken directly from Table II for reducing intervals of sidereal time to mean solar time; or, approximately, from Table LII of BOWDITCH'S *Navigators*.

This column may be used in converting sidereal time to mean time instead of that on page II. As an illustration, let us take Example 3, above.

It is seen in advance that the sum of the mean time of sidereal noon and the given sidereal time is less than 24 hours. Were it more than 24 hours, the mean time of sidereal noon should be taken out for May 13, that is the preceding astronomical day.

May 14, the mean time of Greenwich sidereal noon is	^h 20	^m 25 ^s 53.43
The H. D. $-9^{\text{m}}.8296 \times 6.678$, or the reduction for long., Table II	^h -	1 5.64
The mean time of local sidereal noon	20	24 47.79
Add the given sidereal time	0	36 37.16 = $0^{\text{h}}.6103$
The sum is	21	1 24.95
$-9^{\text{m}}.8296 \times 0.6103$, or the reduction for $0^{\text{h}} 36^{\text{m}} 37^{\text{s}}.2$ in Table II	^h -	0 6.00
The required astronomical mean time	May 14,	21 1 18.95

Page IV contains *The Moon's Semidiameter* and *Equatorial Horizontal Parallax*, for each mean noon and midnight at Greenwich. Columns adjoining those of the horizontal parallax give the change of this quantity in one hour, by means of which it can be reduced to any other Greenwich mean time, in the same way as the sun's declination and the equation of time in the preceding examples. The sign plus or minus prefixed to the hourly differences, shows whether the horizontal parallax is increasing or decreasing.

The reduction of the moon's semidiameter may be readily found by multiplying the reduction of the horizontal parallax by 0.272. It may also be obtained from Table XI of BOWDITCH'S *Navigator*, or by simply computing the proportional part.

If, for example, the semidiameter of the moon is to be taken out for 1892, June 11, 10^h, P. M., Greenwich mean time, we see that the difference of the semidiameters at noon and midnight of June 11 is 4'', then,

$$12^h : 10^h = 4'' : 3''.3,$$

which is the correction to be added to the semidiameter at noon, because the semidiameter is increasing. The moon's semidiameter then, for June 11, 10^h, is 15' 14''.2 + 3''.3, or 15' 17''.5.

The moon's semidiameter and horizontal parallax are required for all observations of the moon. When great precision is needed, the hourly differences should be first interpolated for half the interval of Greenwich time from noon or midnight, and a correction applied to the horizontal parallax for the latitude of the place of observation.

The *Mean Time of the Moon's Upper Transit at Greenwich*, which is given on page IV to tenths of a minute, is also accompanied with a column of differences for one hour of longitude, by means of which, having the longitude converted into time, the local time of the moon's meridian passage at any other place, may be computed. The reduction may be taken by simple inspection from BOWDITCH'S Table XXVIII. The last column of this page contains the *Age* of the moon, or the time elapsed since the preceding new moon, to tenths of a day.

Pages V—XII contain *The Moon's Right Ascension*, and *Declination*, for each day and hour of Greenwich mean time. They are accompanied with columns of differences for one minute, which are also given at each hour. The Greenwich mean time, which is required for taking out these quantities, may be taken from a well-regulated chronometer, or obtained by applying the longitude converted into time, to the local mean time of the observer. The right ascension or declination is taken out for the day and hour of the Greenwich mean time; the *Diff. for 1 Minute* multiplied by the minutes and parts of a minute of the Greenwich time, and the product added to, or subtracted from the quantity, according as the quantity is increasing or decreasing.

Thus, suppose the moon's right ascension and declination are required for 1892, May 1, 10^h 10^m 30^s, astronomical mean time at Greenwich:—

	Right Ascension.			Declination.		
	^h	^m	^s			
May 1, 10 ^h	7	26	23.03		N. 26°	42' 26''.7
Diff. 2 ^d .4785 × 10.5 . . .	=	+	26.02	3'''.492 × 10.5 =	—	36.7
May 1, 10 ^h 10 ^m 30 ^s . . .	7	26	54.05		N. 26°	41' 50.0

The differences interpolated for 5^m.2 = 0^h.09 are, for the right ascension 2^d.478, and for the declination 3'''.504, which may be used for greater precision.

Page XII contains also the *Phases of the Moon* and the dates of the *Moon's Perigee and Apogee*, or least and greatest distances from the earth.

Pages XIII—XVIII contain the *Lunar Distances*, or the angular distances of the centre of the moon from the centre of the sun, and from the four larger planets and certain fixed stars, as they would appear to an observer at the centre of the earth. They are given for every third hour of Greenwich mean time, beginning at noon; the dates are therefore astronomical. All the distances that can be observed on the same day, are grouped together under that date; and the columns are read from left to right, across both pages of the same opening. The letter W. or E. is affixed to the name of the sun, planet or star, to indicate that it is on the west, or east side of the moon.

An observer on the earth's surface having measured a lunar distance, corrected it for errors of his instrument and for the semidiameter of the objects, and cleared it from the effects of refraction and parallax, finds the true or geocentric distance, that is, the distance as it would have appeared from the centre of the earth at the moment of observation. With this distance and the distances in the Ephemeris of the same bodies on the same day, the Greenwich mean time of the observation can be found.

To lessen the labor of computation, there is given in the Ephemeris, between every two successive distances, the logarithm of the seconds of time in which the distance changes 1"; or, as it is usually called, the *Proportional Logarithm of the Difference*. It is given for the middle instant of the two hours between which it is placed.

For computing the Greenwich time we have the following rule:—

Find in the Almanac the two distances between which the true distance falls; take out the nearer of these, the hours of Greenwich time over it, and the P. L. of Diff. between them.

Find the difference between the true distance and the distance taken from the Almanac; and from the proportional logarithm of this difference, as found in the Navigator, subtract the P. L. of Diff. taken from the Almanac.

The result is the proportional logarithm of an interval of time to be added to the hours of Greenwich time, taken from the Almanac, when the earlier Almanac-distance is used; to be subtracted from the hours of Greenwich time, when the later Almanac-distance is used.

Another method is, to add the common logarithm of the difference of the true and the Almanac-distances to the P. L. of Diff. of the Almanac; the sum will be the common logarithm of the correction to be applied to the hours of Greenwich time. The Table of *Logarithms of small Arcs in Space or Time*, given at the end of the volume for 1871, saves the operation of reducing degrees (or hours) and minutes to seconds, and the reverse.

As the P. L. of Diff. in the Ephemeris varies, the Greenwich time found by the methods just described may not be sufficiently exact. To correct it for such variation, or second difference, take the difference between the P. L. of Diff. used and the one which follows it in the Ephemeris, (or, more strictly, half the difference of the preceding and following ones). With this difference, and the first correction of the Greenwich time already found, enter Table I, appended to this volume, and take out the corresponding seconds, which are to be added to the approximate Greenwich time when the Prop. Logs. in the Ephemeris are decreasing; and subtracted when they are increasing.

Thus the Greenwich mean time of the observation can be obtained. If the observer has noted the time of observation by a chronometer, the difference of this chronometer-time and the Greenwich mean time will be the error of the chronometer on Greenwich time as found from the lunar distance. In this way lunar distances can be used as a check upon the chronometer. By a series of carefully observed lunar distances on both sides of the moon, the chronometer-error may generally be ascertained within 20 or 30 seconds.

If the observer has found the local mean time of observation from the observed altitude of one of the bodies, or by a watch regulated to that time by recent observations and corrected for change of longitude in the interval, the difference of this local time and the Greenwich time found from the lunar distance will be his longitude. A longitude derived by this method should always be considered as uncertain by 5' or more.

As an example of finding the Greenwich mean time from a lunar distance, suppose that in 1892, Oct. 5, the corrected distance of the moon's centre from that of α Aquilæ is $69^{\circ} 31'$:—

Corrected distance	.	.	.	.	.	69° 31' 0"	
Distance in Ephemeris Oct. 5, III ^h	.	.	.	.	.	68 50 31	P. L. 0.3029
Difference	.	.	.	.	.	0 40 29	P. L. 0.6480
							P. L. 0.3451
Time from III ^h (after)	.	.	.	.	.	^h +1 ^m 21 ^s 19	
Corr. for 2d Diff., Table I	.	.	.	.	.	+ 10	
Greenwich mean time Oct. 5	.	.	.	.	.	4 21 29	

By a table of common logarithms, or a table of logarithms of small arcs, the reduction of the Greenwich time would be found thus:—

From Ephemeris	P. L.	0.3029
Diff. of distances, $40' 29'' = 2429''$	log	<u>3.3854</u>
Red. of Greenwich time, $4879^s = 1^h 21^m 19^s$	log	3.6883

The result is the same as by the previous method.

Planetary Ephemerides.—Pages 218—247 contain the geocentric ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn. The ephemeris of each consists of its *Apparent Right Ascension* and *Declination*, with the *Variation for 1 Hour*, for Greenwich mean noon of each day; the *Mean Time of Meridian Passage*; and, at the bottom of the page, its *Semi-diameter* and *Horizontal Parallax*.

The right ascension and declination of a planet are required whenever it is observed for time, latitude or azimuth. The mode of reducing them to any instant of Greenwich mean time is the same as in the examples of the sun, previously given. The mean time of passage across any meridian can be found by dividing the daily difference by 24, and using the hourly difference thus obtained, as in the case of the moon; or, the reduction can be found by the proportion: As 24^h (or 360°) is to the longitude, so is the daily difference to the reduction required.

Positions of Fixed Stars.—Pages 248—250 contain the *Mean Places*, with their *Annual Variations*, of one hundred and fifty fixed stars for the beginning of the year 1892. The sign + indicates north declinations; the sign — indicates south declinations.

The right ascension of a star is also the sidereal time of its meridian passage. From this we may roughly find the mean time of meridian passage by adding the mean time of sidereal noon, on page III of the Calendar, or subtracting the sidereal time of mean noon on page II, (disregarding seconds); but we can find it more exactly by the processes already given for converting sidereal into mean time, the sidereal time being the right ascension of the star.

The right ascension and declination of a star are required whenever it is observed for time, latitude or azimuth. The mean places are sufficiently accurate for most observations at sea; but for more exact observations, the apparent places which are given in the larger volume of the Almanac, should be used.

Eclipses.—Pages 251—254 contain a brief statement of the eclipses in 1892. Pages 253 and 254 contain charts of the eclipses of the sun, which show the part of the world in which each is visible. Each of the dotted curves passes through places where the eclipse begins, or ends, at the hour or minute of Greenwich time which is marked on it. These curves aid in finding an approximate time of the beginning and end at places between them.

TABLE I.

CORRECTION REQUIRED, ON ACCOUNT OF SECOND DIFFERENCES OF THE MOON'S
MOTION, IN FINDING THE GREENWICH TIME CORRESPONDING
TO A CORRECTED LUNAR DISTANCE.

Approximate Interval.				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
				2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	10	2	50	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	
0	20	2	40	0	1	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	6	6	
0	30	2	30	0	1	1	2	2	2	2	3	3	3	4	4	5	5	5	6	6	6	7	7	7	8	8	9	9	
0	40	2	20	0	1	1	2	2	3	3	3	4	4	5	5	6	6	6	7	7	8	8	9	9	10	10	11	11	
0	50	2	10	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	12	12	13	13	
1	0	2	0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	10	11	12	12	13	14	14	
1	10	1	50	1	1	2	3	3	4	4	5	6	6	7	8	8	9	9	10	10	11	11	12	12	13	14	15	15	
1	20	1	40	1	1	2	3	3	4	4	5	6	7	7	8	9	9	10	10	11	12	12	13	14	15	16	16		
1	30	1	30	1	1	2	3	3	4	4	5	6	7	8	8	9	9	10	11	11	12	12	13	14	15	16	16		
				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	10	2	50	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	7	7	7	
0	20	2	40	7	7	7	7	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12	12	12	12	
0	30	2	30	9	10	10	10	11	11	12	12	12	13	13	13	14	14	14	14	15	15	16	16	16	17	17	17	17	
0	40	2	20	12	12	13	13	13	14	14	15	15	16	16	16	17	17	18	18	19	19	19	20	20	21	21	22	22	
0	50	2	10	14	14	15	15	16	16	16	17	17	18	19	19	20	20	21	21	22	22	22	23	23	24	24	25	25	
1	0	2	0	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24	25	25	26	27	27	28	28	
1	10	1	50	16	17	17	18	18	19	19	20	21	21	22	22	23	24	24	25	25	26	27	27	28	29	30	30	30	
1	20	1	40	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	26	27	27	28	29	30	31	31	31	31	
1	30	1	30	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29	30	31	31	31	31	31	
				DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																									
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	10	2	50	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	
0	20	2	40	13	13	13	13	14	14	14	14	15	15	15	15	15	15	15	15	15	16	16	16	16	17	17	17	17	
0	30	2	30	18	18	18	19	19	19	20	20	20	21	21	21	22	22	22	22	22	23	23	23	24	24	24	24	24	
0	40	2	20	22	22	23	23	24	24	25	25	25	26	26	27	27	27	28	28	28	28	29	29	29	30	30	30	30	
0	50	2	10	26	26	26	27	27	28	29	29	29	30	30	31	31	31	32	32	32	32	33	33	33	34	34	34	34	
1	0	2	0	28	29	29	30	30	31	31	32	33	33	34	34	35	35	36	36	37	37	37	38	38	38	39	39	39	
1	10	1	50	30	31	31	32	32	33	34	34	35	35	36	36	37	37	38	38	39	39	40	40	41	41	41	42	42	
1	20	1	40	31	32	33	33	34	34	35	35	36	36	37	38	38	39	39	40	40	41	41	42	42	43	43	43	43	
1	30	1	30	32	32	33	34	34	35	35	36	36	37	38	38	39	39	40	40	41	41	42	42	43	43	43	43	43	

The correction is to be added to the approximate Greenwich time when the proportional logarithms in the Ephemeris are decreasing, and subtracted when they are increasing.

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
0	0 0.0	0 9.8	0 19.7	0 29.5	0 39.3	0 49.1	0 59.0	1 8.8	1 18.6	1 28.5	1 38.3	1 48.1
1	0 0.2	0 10.0	0 19.8	0 29.7	0 39.5	0 49.3	0 59.1	1 9.0	1 18.8	1 28.6	1 38.5	1 48.3
2	0 0.3	0 10.2	0 20.0	0 29.8	0 39.6	0 49.5	0 59.3	1 9.1	1 19.0	1 28.8	1 38.6	1 48.5
3	0 0.5	0 10.3	0 20.2	0 30.0	0 39.8	0 49.6	0 59.5	1 9.3	1 19.1	1 29.0	1 38.8	1 48.6
4	0 0.7	0 10.5	0 20.3	0 30.1	0 40.0	0 49.8	0 59.6	1 9.5	1 19.3	1 29.1	1 39.0	1 48.8
5	0 0.8	0 10.6	0 20.5	0 30.3	0 40.1	0 50.0	0 59.8	1 9.6	1 19.5	1 29.3	1 39.1	1 48.9
6	0 1.0	0 10.8	0 20.6	0 30.5	0 40.3	0 50.1	1 0.0	1 9.8	1 19.6	1 29.4	1 39.3	1 49.1
7	0 1.1	0 11.0	0 20.8	0 30.6	0 40.5	0 50.3	1 0.1	1 10.0	1 19.8	1 29.6	1 39.4	1 49.3
8	0 1.3	0 11.1	0 21.0	0 30.8	0 40.6	0 50.5	1 0.3	1 10.1	1 19.9	1 29.8	1 39.6	1 49.4
9	0 1.5	0 11.3	0 21.1	0 31.0	0 40.8	0 50.6	1 0.5	1 10.3	1 20.1	1 29.9	1 39.8	1 49.6
10	0 1.6	0 11.5	0 21.3	0 31.1	0 41.0	0 50.8	1 0.6	1 10.4	1 20.3	1 30.1	1 39.9	1 49.8
11	0 1.8	0 11.6	0 21.5	0 31.3	0 41.1	0 51.0	1 0.8	1 10.6	1 20.4	1 30.3	1 40.1	1 49.9
12	0 2.0	0 11.8	0 21.6	0 31.5	0 41.3	0 51.1	1 0.9	1 10.8	1 20.6	1 30.4	1 40.3	1 50.1
13	0 2.1	0 12.0	0 21.8	0 31.6	0 41.4	0 51.3	1 1.1	1 10.9	1 20.8	1 30.6	1 40.4	1 50.3
14	0 2.3	0 12.1	0 22.0	0 31.8	0 41.6	0 51.4	1 1.3	1 11.1	1 20.9	1 30.8	1 40.6	1 50.4
15	0 2.5	0 12.3	0 22.1	0 31.9	0 41.8	0 51.6	1 1.4	1 11.3	1 21.1	1 30.9	1 40.8	1 50.6
16	0 2.6	0 12.5	0 22.3	0 32.1	0 41.9	0 51.8	1 1.6	1 11.4	1 21.3	1 31.1	1 40.9	1 50.7
17	0 2.8	0 12.6	0 22.4	0 32.3	0 42.1	0 51.9	1 1.8	1 11.6	1 21.4	1 31.3	1 41.1	1 50.9
18	0 2.9	0 12.8	0 22.6	0 32.4	0 42.3	0 52.1	1 1.9	1 11.8	1 21.6	1 31.4	1 41.2	1 51.1
19	0 3.1	0 12.9	0 22.8	0 32.6	0 42.4	0 52.3	1 2.1	1 11.9	1 21.7	1 31.6	1 41.4	1 51.2
20	0 3.3	0 13.1	0 22.9	0 32.8	0 42.6	0 52.4	1 2.3	1 12.1	1 21.9	1 31.7	1 41.6	1 51.4
21	0 3.4	0 13.3	0 23.1	0 32.9	0 42.8	0 52.6	1 2.4	1 12.2	1 22.1	1 31.9	1 41.7	1 51.6
22	0 3.6	0 13.4	0 23.3	0 33.1	0 42.9	0 52.8	1 2.6	1 12.4	1 22.2	1 32.1	1 41.9	1 51.7
23	0 3.8	0 13.6	0 23.4	0 33.3	0 43.1	0 52.9	1 2.7	1 12.6	1 22.4	1 32.2	1 42.1	1 51.9
24	0 3.9	0 13.8	0 23.6	0 33.4	0 43.2	0 53.1	1 2.9	1 12.7	1 22.6	1 32.4	1 42.2	1 52.1
25	0 4.1	0 13.9	0 23.8	0 33.6	0 43.4	0 53.2	1 3.1	1 12.9	1 22.7	1 32.6	1 42.4	1 52.2
26	0 4.3	0 14.1	0 23.9	0 33.7	0 43.6	0 53.4	1 3.2	1 13.1	1 22.9	1 32.7	1 42.6	1 52.4
27	0 4.4	0 14.3	0 24.1	0 33.9	0 43.7	0 53.6	1 3.4	1 13.2	1 23.1	1 32.9	1 42.7	1 52.5
28	0 4.6	0 14.4	0 24.2	0 34.1	0 43.9	0 53.7	1 3.6	1 13.4	1 23.2	1 33.1	1 42.9	1 52.7
29	0 4.8	0 14.6	0 24.4	0 34.2	0 44.1	0 53.9	1 3.7	1 13.6	1 23.4	1 33.2	1 43.0	1 52.9
30	0 4.9	0 14.7	0 24.6	0 34.4	0 44.2	0 54.1	1 3.9	1 13.7	1 23.6	1 33.4	1 43.2	1 53.0
31	0 5.1	0 14.9	0 24.7	0 34.6	0 44.4	0 54.2	1 4.1	1 13.9	1 23.7	1 33.5	1 43.4	1 53.2
32	0 5.2	0 15.1	0 24.9	0 34.7	0 44.6	0 54.4	1 4.2	1 14.0	1 23.9	1 33.7	1 43.5	1 53.4
33	0 5.4	0 15.2	0 25.1	0 34.9	0 44.7	0 54.6	1 4.4	1 14.2	1 24.0	1 33.9	1 43.7	1 53.5
34	0 5.6	0 15.4	0 25.2	0 35.1	0 44.9	0 54.7	1 4.5	1 14.4	1 24.2	1 34.0	1 43.9	1 53.7
35	0 5.7	0 15.6	0 25.4	0 35.2	0 45.1	0 54.9	1 4.7	1 14.5	1 24.4	1 34.2	1 44.0	1 53.9
36	0 5.9	0 15.7	0 25.6	0 35.4	0 45.2	0 55.0	1 4.9	1 14.7	1 24.5	1 34.4	1 44.2	1 54.0
37	0 6.1	0 15.9	0 25.7	0 35.6	0 45.4	0 55.2	1 5.0	1 14.9	1 24.7	1 34.5	1 44.4	1 54.2
38	0 6.2	0 16.1	0 25.9	0 35.7	0 45.5	0 55.4	1 5.2	1 15.0	1 24.9	1 34.7	1 44.5	1 54.4
39	0 6.4	0 16.2	0 26.0	0 35.9	0 45.7	0 55.5	1 5.4	1 15.2	1 25.0	1 34.9	1 44.7	1 54.5
40	0 6.6	0 16.4	0 26.2	0 36.0	0 45.9	0 55.7	1 5.5	1 15.4	1 25.2	1 35.0	1 44.8	1 54.7
41	0 6.7	0 16.5	0 26.4	0 36.2	0 46.0	0 55.9	1 5.7	1 15.5	1 25.4	1 35.2	1 45.0	1 54.8
42	0 6.9	0 16.7	0 26.5	0 36.4	0 46.2	0 56.0	1 5.9	1 15.7	1 25.5	1 35.3	1 45.2	1 55.0
43	0 7.0	0 16.9	0 26.7	0 36.5	0 46.4	0 56.2	1 6.0	1 15.9	1 25.7	1 35.5	1 45.3	1 55.2
44	0 7.2	0 17.0	0 26.9	0 36.7	0 46.5	0 56.4	1 6.2	1 16.0	1 25.8	1 35.7	1 45.5	1 55.3
45	0 7.4	0 17.2	0 27.0	0 36.9	0 46.7	0 56.5	1 6.4	1 16.2	1 26.0	1 35.8	1 45.7	1 55.5
46	0 7.5	0 17.4	0 27.2	0 37.0	0 46.9	0 56.7	1 6.5	1 16.3	1 26.2	1 36.0	1 45.8	1 55.7
47	0 7.7	0 17.5	0 27.4	0 37.2	0 47.0	0 56.8	1 6.7	1 16.5	1 26.3	1 36.2	1 46.0	1 55.8
48	0 7.9	0 17.7	0 27.5	0 37.4	0 47.2	0 57.0	1 6.8	1 16.7	1 26.5	1 36.3	1 46.2	1 56.0
49	0 8.0	0 17.9	0 27.7	0 37.5	0 47.3	0 57.2	1 7.0	1 16.8	1 26.7	1 36.5	1 46.3	1 56.2
50	0 8.2	0 18.0	0 27.8	0 37.7	0 47.5	0 57.3	1 7.2	1 17.0	1 26.8	1 36.7	1 46.5	1 56.3
51	0 8.4	0 18.2	0 28.0	0 37.8	0 47.7	0 57.5	1 7.3	1 17.2	1 27.0	1 36.8	1 46.7	1 56.5
52	0 8.5	0 18.3	0 28.2	0 38.0	0 47.8	0 57.7	1 7.5	1 17.3	1 27.2	1 37.0	1 46.8	1 56.6
53	0 8.7	0 18.5	0 28.3	0 38.2	0 48.0	0 57.8	1 7.7	1 17.5	1 27.3	1 37.1	1 47.0	1 56.8
54	0 8.8	0 18.7	0 28.5	0 38.3	0 48.2	0 58.0	1 7.8	1 17.7	1 27.5	1 37.3	1 47.1	1 57.0
55	0 9.0	0 18.8	0 28.7	0 38.5	0 48.3	0 58.2	1 8.0	1 17.8	1 27.6	1 37.5	1 47.3	1 57.1
56	0 9.2	0 19.0	0 28.8	0 38.7	0 48.5	0 58.3	1 8.2	1 18.0	1 27.8	1 37.6	1 47.5	1 57.3
57	0 9.3	0 19.2	0 29.0	0 38.8	0 48.7	0 58.5	1 8.3	1 18.1	1 28.0	1 37.8	1 47.6	1 57.5
58	0 9.5	0 19.3	0 29.2	0 39.0	0 48.8	0 58.6	1 8.5	1 18.3	1 28.1	1 38.0	1 47.8	1 57.6
59	0 9.7	0 19.5	0 29.3	0 39.2	0 49.0	0 58.8	1 8.6	1 18.5	1 28.3	1 38.1	1 48.0	1 57.8
Side- real.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h
m	m	s	m	s	m	s	m	s	m	s	m	s
0	1 58.0	2 7.8	2 17.6	2 27.4	2 37.3	2 47.1	2 56.9	3 6.8	3 16.6	3 26.4	3 36.2	3 46.1
1	1 58.1	2 7.9	2 17.8	2 27.6	2 37.4	2 47.3	2 57.1	3 6.9	3 16.8	3 26.6	3 36.4	3 46.2
2	1 58.3	2 8.1	2 17.9	2 27.8	2 37.6	2 47.4	2 57.3	3 7.1	3 16.9	3 26.7	3 36.6	3 46.4
3	1 58.4	2 8.3	2 18.1	2 27.9	2 37.8	2 47.6	2 57.4	3 7.2	3 17.1	3 26.9	3 36.7	3 46.6
4	1 58.6	2 8.4	2 18.3	2 28.1	2 37.9	2 47.8	2 57.6	3 7.4	3 17.2	3 27.1	3 36.9	3 46.7
5	1 58.8	2 8.6	2 18.4	2 28.3	2 38.1	2 47.9	2 57.8	3 7.6	3 17.4	3 27.2	3 37.1	3 46.9
6	1 58.9	2 8.8	2 18.6	2 28.4	2 38.3	2 48.0	2 57.9	3 7.7	3 17.6	3 27.4	3 37.2	3 47.1
7	1 59.1	2 8.9	2 18.8	2 28.6	2 38.4	2 48.2	2 58.1	3 7.9	3 17.7	3 27.6	3 37.4	3 47.2
8	1 59.3	2 9.1	2 18.9	2 28.8	2 38.6	2 48.4	2 58.2	3 8.1	3 17.9	3 27.7	3 37.6	3 47.4
9	1 59.4	2 9.3	2 19.1	2 28.9	2 38.7	2 48.6	2 58.4	3 8.2	3 18.1	3 27.9	3 37.7	3 47.6
10	1 59.6	2 9.4	2 19.3	2 29.1	2 38.9	2 48.7	2 58.6	3 8.4	3 18.2	3 28.1	3 37.9	3 47.7
11	1 59.8	2 9.6	2 19.4	2 29.2	2 39.1	2 48.9	2 58.7	3 8.6	3 18.4	3 28.2	3 38.1	3 47.9
12	1 59.9	2 9.8	2 19.6	2 29.4	2 39.2	2 49.1	2 58.9	3 8.7	3 18.6	3 28.4	3 38.2	3 48.0
13	2 0.1	2 9.9	2 19.7	2 29.6	2 39.4	2 49.2	2 59.1	3 8.9	3 18.7	3 28.6	3 38.4	3 48.2
14	2 0.2	2 10.1	2 19.9	2 29.7	2 39.6	2 49.4	2 59.2	3 9.1	3 18.9	3 28.7	3 38.5	3 48.4
15	2 0.4	2 10.2	2 20.1	2 29.9	2 39.7	2 49.6	2 59.4	3 9.2	3 19.0	3 28.9	3 38.7	3 48.5
16	2 0.6	2 10.4	2 20.2	2 30.1	2 39.9	2 49.7	2 59.6	3 9.4	3 19.2	3 29.0	3 38.9	3 48.7
17	2 0.7	2 10.6	2 20.4	2 30.2	2 40.1	2 49.9	2 59.7	3 9.5	3 19.4	3 29.2	3 39.0	3 48.9
18	2 0.9	2 10.7	2 20.6	2 30.4	2 40.2	2 50.1	2 59.9	3 9.7	3 19.5	3 29.4	3 39.2	3 49.0
19	2 1.1	2 10.9	2 20.7	2 30.6	2 40.4	2 50.2	3 0.0	3 9.9	3 19.7	3 29.5	3 39.4	3 49.2
20	2 1.2	2 11.1	2 20.9	2 30.7	2 40.5	2 50.4	3 0.2	3 10.0	3 19.9	3 29.7	3 39.5	3 49.4
21	2 1.4	2 11.2	2 21.1	2 30.9	2 40.7	2 50.5	3 0.4	3 10.2	3 20.0	3 29.9	3 39.7	3 49.5
22	2 1.6	2 11.4	2 21.2	2 31.0	2 40.9	2 50.7	3 0.5	3 10.4	3 20.2	3 30.0	3 39.9	3 49.7
23	2 1.7	2 11.6	2 21.4	2 31.2	2 41.0	2 50.9	3 0.7	3 10.5	3 20.4	3 30.2	3 40.0	3 49.8
24	2 1.9	2 11.7	2 21.5	2 31.4	2 41.2	2 51.0	3 0.9	3 10.7	3 20.5	3 30.4	3 40.2	3 50.0
25	2 2.0	2 11.9	2 21.7	2 31.5	2 41.4	2 51.2	3 1.0	3 10.9	3 20.7	3 30.5	3 40.3	3 50.2
26	2 2.2	2 12.0	2 21.9	2 31.7	2 41.5	2 51.4	3 1.2	3 11.0	3 20.9	3 30.7	3 40.5	3 50.3
27	2 2.4	2 12.2	2 22.0	2 31.9	2 41.7	2 51.5	3 1.4	3 11.2	3 21.0	3 30.8	3 40.7	3 50.5
28	2 2.5	2 12.4	2 22.2	2 32.0	2 41.9	2 51.7	3 1.5	3 11.3	3 21.2	3 31.0	3 40.8	3 50.7
29	2 2.7	2 12.5	2 22.4	2 32.2	2 42.0	2 51.9	3 1.7	3 11.5	3 21.3	3 31.2	3 41.0	3 50.8
30	2 2.9	2 12.7	2 22.5	2 32.4	2 42.2	2 52.0	3 1.8	3 11.7	3 21.5	3 31.3	3 41.2	3 51.0
31	2 3.0	2 12.9	2 22.7	2 32.5	2 42.4	2 52.2	3 2.0	3 11.8	3 21.7	3 31.5	3 41.3	3 51.2
32	2 3.2	2 13.0	2 22.9	2 32.7	2 42.5	2 52.3	3 2.2	3 12.0	3 21.8	3 31.7	3 41.5	3 51.3
33	2 3.4	2 13.2	2 23.0	2 32.8	2 42.7	2 52.5	3 2.3	3 12.2	3 22.0	3 31.8	3 41.7	3 51.5
34	2 3.5	2 13.4	2 23.2	2 33.0	2 42.8	2 52.7	3 2.5	3 12.3	3 22.2	3 32.0	3 41.8	3 51.6
35	2 3.7	2 13.5	2 23.3	2 33.2	2 43.0	2 52.8	3 2.7	3 12.5	3 22.3	3 32.2	3 42.0	3 51.8
36	2 3.9	2 13.7	2 23.5	2 33.3	2 43.2	2 53.0	3 2.8	3 12.7	3 22.5	3 32.3	3 42.1	3 52.0
37	2 4.0	2 13.8	2 23.7	2 33.5	2 43.3	2 53.2	3 3.0	3 12.8	3 22.7	3 32.5	3 42.3	3 52.1
38	2 4.2	2 14.0	2 23.8	2 33.7	2 43.5	2 53.3	3 3.2	3 13.0	3 22.8	3 32.6	3 42.5	3 52.3
39	2 4.3	2 14.2	2 24.0	2 33.8	2 43.7	2 53.5	3 3.3	3 13.2	3 23.0	3 32.8	3 42.6	3 52.5
40	2 4.5	2 14.3	2 24.2	2 34.0	2 43.8	2 53.7	3 3.5	3 13.3	3 23.1	3 33.0	3 42.8	3 52.6
41	2 4.7	2 14.5	2 24.3	2 34.2	2 44.0	2 53.8	3 3.6	3 13.5	3 23.3	3 33.1	3 43.0	3 52.8
42	2 4.8	2 14.7	2 24.5	2 34.3	2 44.2	2 54.0	3 3.8	3 13.6	3 23.5	3 33.3	3 43.1	3 53.0
43	2 5.0	2 14.8	2 24.7	2 34.5	2 44.3	2 54.1	3 4.0	3 13.8	3 23.6	3 33.5	3 43.3	3 53.1
44	2 5.2	2 15.0	2 24.8	2 34.7	2 44.5	2 54.3	3 4.1	3 14.0	3 23.8	3 33.6	3 43.5	3 53.3
45	2 5.3	2 15.2	2 25.0	2 34.8	2 44.6	2 54.5	3 4.3	3 14.1	3 24.0	3 33.8	3 43.6	3 53.5
46	2 5.5	2 15.3	2 25.2	2 35.0	2 44.8	2 54.6	3 4.5	3 14.3	3 24.1	3 34.0	3 43.8	3 53.6
47	2 5.7	2 15.5	2 25.3	2 35.1	2 45.0	2 54.8	3 4.6	3 14.5	3 24.3	3 34.1	3 44.0	3 53.8
48	2 5.8	2 15.6	2 25.5	2 35.3	2 45.1	2 55.0	3 4.8	3 14.6	3 24.5	3 34.3	3 44.1	3 53.9
49	2 6.0	2 15.8	2 25.6	2 35.5	2 45.3	2 55.1	3 5.0	3 14.8	3 24.6	3 34.4	3 44.3	3 54.1
50	2 6.1	2 16.0	2 25.8	2 35.6	2 45.5	2 55.3	3 5.1	3 15.0	3 24.8	3 34.6	3 44.4	3 54.3
51	2 6.3	2 16.1	2 26.0	2 35.8	2 45.6	2 55.5	3 5.3	3 15.1	3 24.9	3 34.8	3 44.6	3 54.4
52	2 6.5	2 16.3	2 26.1	2 36.0	2 45.8	2 55.6	3 5.5	3 15.3	3 25.1	3 34.9	3 44.8	3 54.6
53	2 6.6	2 16.5	2 26.3	2 36.1	2 46.0	2 55.8	3 5.6	3 15.4	3 25.3	3 35.1	3 44.9	3 54.8
54	2 6.8	2 16.6	2 26.5	2 36.3	2 46.1	2 55.9	3 5.8	3 15.6	3 25.4	3 35.3	3 45.1	3 54.9
55	2 7.0	2 16.8	2 26.6	2 36.5	2 46.3	2 56.1	3 5.9	3 15.8	3 25.6	3 35.4	3 45.3	3 55.1
56	2 7.1	2 17.0	2 26.8	2 36.6	2 46.4	2 56.3	3 6.1	3 15.9	3 25.8	3 35.6	3 45.4	3 55.3
57	2 7.3	2 17.1	2 27.0	2 36.8	2 46.6	2 56.4	3 6.3	3 16.1	3 25.9	3 35.8	3 45.6	3 55.4
58	2 7.5	2 17.3	2 27.1	2 36.9	2 46.8	2 56.6	3 6.4	3 16.3	3 26.1	3 35.9	3 45.8	3 55.6
59	2 7.6	2 17.4	2 27.3	2 37.1	2 46.9	2 56.8	3 6.6	3 16.4	3 26.3	3 36.1	3 45.9	3 55.7
Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.												
Mean Solar.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
0	0 0.0	0 9.9	0 19.7	0 29.6	0 39.4	0 49.3	0 59.1	1 9.0	1 18.9	1 28.7	1 38.6	1 48.4
1	0 0.2	0 10.0	0 19.9	0 29.7	0 39.6	0 49.4	0 59.3	1 9.2	1 19.0	1 28.9	1 38.7	1 48.6
2	0 0.3	0 10.2	0 20.0	0 29.9	0 39.8	0 49.6	0 59.5	1 9.3	1 19.2	1 29.0	1 38.9	1 48.8
3	0 0.5	0 10.3	0 20.2	0 30.1	0 39.9	0 49.8	0 59.6	1 9.5	1 19.3	1 29.2	1 39.1	1 48.9
4	0 0.7	0 10.5	0 20.4	0 30.2	0 40.1	0 49.9	0 59.8	1 9.7	1 19.5	1 29.4	1 39.2	1 49.1
5	0 0.8	0 10.7	0 20.5	0 30.4	0 40.2	0 50.1	1 0.0	1 9.8	1 19.7	1 29.5	1 39.4	1 49.2
6	0 1.0	0 10.8	0 20.7	0 30.6	0 40.4	0 50.3	1 0.1	1 10.0	1 19.8	1 29.7	1 39.6	1 49.4
7	0 1.2	0 11.0	0 20.9	0 30.7	0 40.6	0 50.4	1 0.3	1 10.1	1 20.0	1 29.9	1 39.7	1 49.6
8	0 1.3	0 11.2	0 21.0	0 30.9	0 40.7	0 50.6	1 0.5	1 10.3	1 20.2	1 30.0	1 39.9	1 49.7
9	0 1.5	0 11.3	0 21.2	0 31.0	0 40.9	0 50.8	1 0.6	1 10.5	1 20.3	1 30.2	1 40.0	1 49.9
10	0 1.6	0 11.5	0 21.4	0 31.2	0 41.1	0 50.9	1 0.8	1 10.6	1 20.5	1 30.4	1 40.2	1 50.1
11	0 1.8	0 11.7	0 21.5	0 31.4	0 41.2	0 51.1	1 0.9	1 10.8	1 20.7	1 30.5	1 40.4	1 50.2
12	0 2.0	0 11.8	0 21.7	0 31.5	0 41.4	0 51.3	1 1.1	1 11.0	1 20.8	1 30.7	1 40.5	1 50.4
13	0 2.1	0 12.0	0 21.8	0 31.7	0 41.6	0 51.4	1 1.3	1 11.1	1 21.0	1 30.8	1 40.7	1 50.6
14	0 2.3	0 12.2	0 22.0	0 31.9	0 41.7	0 51.6	1 1.4	1 11.3	1 21.2	1 31.0	1 40.9	1 50.7
15	0 2.5	0 12.3	0 22.2	0 32.0	0 41.9	0 51.7	1 1.6	1 11.5	1 21.3	1 31.2	1 41.0	1 50.9
16	0 2.6	0 12.5	0 22.3	0 32.2	0 42.1	0 51.9	1 1.8	1 11.6	1 21.5	1 31.3	1 41.2	1 51.0
17	0 2.8	0 12.6	0 22.5	0 32.4	0 42.2	0 52.1	1 1.9	1 11.8	1 21.6	1 31.5	1 41.4	1 51.2
18	0 3.0	0 12.8	0 22.7	0 32.5	0 42.4	0 52.2	1 2.1	1 12.0	1 21.8	1 31.7	1 41.5	1 51.4
19	0 3.1	0 13.0	0 22.8	0 32.7	0 42.5	0 52.4	1 2.3	1 12.1	1 22.0	1 31.8	1 41.7	1 51.5
20	0 3.3	0 13.1	0 23.0	0 32.9	0 42.7	0 52.6	1 2.4	1 12.3	1 22.1	1 32.0	1 41.8	1 51.7
21	0 3.4	0 13.3	0 23.2	0 33.0	0 42.9	0 52.7	1 2.6	1 12.4	1 22.3	1 32.2	1 42.0	1 51.9
22	0 3.6	0 13.5	0 23.3	0 33.2	0 43.0	0 52.9	1 2.8	1 12.6	1 22.5	1 32.3	1 42.2	1 52.0
23	0 3.8	0 13.6	0 23.5	0 33.3	0 43.2	0 53.1	1 2.9	1 12.8	1 22.6	1 32.5	1 42.3	1 52.2
24	0 3.9	0 13.8	0 23.7	0 33.5	0 43.4	0 53.2	1 3.1	1 12.9	1 22.8	1 32.7	1 42.5	1 52.4
25	0 4.1	0 14.0	0 23.8	0 33.7	0 43.5	0 53.4	1 3.2	1 13.1	1 23.0	1 32.8	1 42.7	1 52.5
26	0 4.3	0 14.1	0 24.0	0 33.8	0 43.7	0 53.6	1 3.4	1 13.3	1 23.1	1 33.0	1 42.8	1 52.7
27	0 4.4	0 14.3	0 24.1	0 34.0	0 43.9	0 53.7	1 3.6	1 13.4	1 23.3	1 33.1	1 43.0	1 52.9
28	0 4.6	0 14.5	0 24.3	0 34.2	0 44.0	0 53.9	1 3.7	1 13.6	1 23.5	1 33.3	1 43.2	1 53.0
29	0 4.8	0 14.6	0 24.5	0 34.3	0 44.2	0 54.0	1 3.9	1 13.8	1 23.6	1 33.5	1 43.3	1 53.2
30	0 4.9	0 14.8	0 24.6	0 34.5	0 44.4	0 54.2	1 4.1	1 13.9	1 23.8	1 33.6	1 43.5	1 53.3
31	0 5.1	0 14.9	0 24.8	0 34.7	0 44.5	0 54.4	1 4.2	1 14.1	1 23.9	1 33.8	1 43.7	1 53.5
32	0 5.3	0 15.1	0 25.0	0 34.8	0 44.7	0 54.5	1 4.4	1 14.3	1 24.1	1 34.0	1 43.8	1 53.7
33	0 5.4	0 15.3	0 25.1	0 35.0	0 44.8	0 54.7	1 4.6	1 14.4	1 24.3	1 34.1	1 44.0	1 53.8
34	0 5.6	0 15.4	0 25.3	0 35.2	0 45.0	0 54.9	1 4.7	1 14.6	1 24.4	1 34.3	1 44.2	1 54.0
35	0 5.8	0 15.6	0 25.5	0 35.3	0 45.2	0 55.0	1 4.9	1 14.7	1 24.6	1 34.5	1 44.3	1 54.2
36	0 5.9	0 15.8	0 25.6	0 35.5	0 45.3	0 55.2	1 5.1	1 14.9	1 24.8	1 34.6	1 44.5	1 54.3
37	0 6.1	0 15.9	0 25.8	0 35.6	0 45.5	0 55.4	1 5.2	1 15.1	1 24.9	1 34.8	1 44.6	1 54.5
38	0 6.2	0 16.1	0 26.0	0 35.8	0 45.7	0 55.5	1 5.4	1 15.2	1 25.1	1 35.0	1 44.8	1 54.7
39	0 6.4	0 16.3	0 26.1	0 36.0	0 45.8	0 55.7	1 5.5	1 15.4	1 25.3	1 35.1	1 45.0	1 54.8
40	0 6.6	0 16.4	0 26.3	0 36.1	0 46.0	0 55.9	1 5.7	1 15.6	1 25.4	1 35.3	1 45.1	1 55.0
41	0 6.7	0 16.6	0 26.4	0 36.3	0 46.2	0 56.0	1 5.9	1 15.7	1 25.6	1 35.4	1 45.3	1 55.2
42	0 6.9	0 16.8	0 26.6	0 36.5	0 46.3	0 56.2	1 6.0	1 15.9	1 25.8	1 35.6	1 45.5	1 55.3
43	0 7.1	0 16.9	0 26.8	0 36.6	0 46.5	0 56.3	1 6.2	1 16.1	1 25.9	1 35.8	1 45.6	1 55.5
44	0 7.2	0 17.1	0 26.9	0 36.8	0 46.7	0 56.5	1 6.4	1 16.2	1 26.1	1 35.9	1 45.8	1 55.6
45	0 7.4	0 17.2	0 27.1	0 37.0	0 46.8	0 56.7	1 6.5	1 16.4	1 26.2	1 36.1	1 46.0	1 55.8
46	0 7.6	0 17.4	0 27.3	0 37.1	0 47.0	0 56.8	1 6.7	1 16.6	1 26.4	1 36.3	1 46.1	1 56.0
47	0 7.7	0 17.6	0 27.4	0 37.3	0 47.1	0 57.0	1 6.9	1 16.7	1 26.6	1 36.4	1 46.3	1 56.1
48	0 7.9	0 17.7	0 27.6	0 37.5	0 47.3	0 57.2	1 7.0	1 16.9	1 26.7	1 36.6	1 46.4	1 56.3
49	0 8.0	0 17.9	0 27.8	0 37.6	0 47.5	0 57.3	1 7.2	1 17.0	1 26.9	1 36.8	1 46.6	1 56.5
50	0 8.2	0 18.1	0 27.9	0 37.8	0 47.6	0 57.5	1 7.4	1 17.2	1 27.1	1 36.9	1 46.8	1 56.6
51	0 8.4	0 18.2	0 28.1	0 37.9	0 47.8	0 57.7	1 7.5	1 17.4	1 27.2	1 37.1	1 46.9	1 56.8
52	0 8.5	0 18.4	0 28.3	0 38.1	0 48.0	0 57.8	1 7.7	1 17.5	1 27.4	1 37.3	1 47.1	1 57.0
53	0 8.7	0 18.6	0 28.4	0 38.3	0 48.1	0 58.0	1 7.8	1 17.7	1 27.6	1 37.4	1 47.3	1 57.1
54	0 8.9	0 18.7	0 28.6	0 38.4	0 48.3	0 58.2	1 8.0	1 17.9	1 27.7	1 37.6	1 47.4	1 57.3
55	0 9.0	0 18.9	0 28.7	0 38.6	0 48.5	0 58.3	1 8.2	1 18.0	1 27.9	1 37.7	1 47.6	1 57.5
56	0 9.2	0 19.1	0 28.9	0 38.8	0 48.6	0 58.5	1 8.3	1 18.2	1 28.1	1 37.9	1 47.8	1 57.6
57	0 9.4	0 19.2	0 29.1	0 38.9	0 48.8	0 58.6	1 8.5	1 18.4	1 28.2	1 38.1	1 47.9	1 57.8
58	0 9.5	0 19.4	0 29.2	0 39.1	0 49.0	0 58.8	1 8.7	1 18.5	1 28.4	1 38.2	1 48.1	1 57.9
59	0 9.7	0 19.5	0 29.4	0 39.3	0 49.1	0 59.0	1 8.8	1 18.7	1 28.5	1 38.4	1 48.3	1 58.1
Mean Solar.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.												
Mean Solar.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .
m	m	s	m	s	m	s	m	s	m	s	m	s
0	1 58.3	2 8.1	2 18.0	2 27.8	2 37.7	2 47.6	2 57.4	3 7.3	3 17.1	3 27.0	3 36.8	3 46.7
1	1 58.4	2 8.3	2 18.2	2 28.0	2 37.9	2 47.7	2 57.6	3 7.4	3 17.3	3 27.2	3 37.0	3 46.9
2	1 58.6	2 8.5	2 18.3	2 28.2	2 38.0	2 47.9	2 57.7	3 7.6	3 17.5	3 27.3	3 37.2	3 47.0
3	1 58.8	2 8.6	2 18.5	2 28.3	2 38.2	2 48.1	2 57.9	3 7.8	3 17.6	3 27.5	3 37.3	3 47.2
4	1 58.9	2 8.8	2 18.6	2 28.5	2 38.4	2 48.2	2 58.1	3 7.9	3 17.8	3 27.6	3 37.5	3 47.4
5	1 59.1	2 9.0	2 18.8	2 28.7	2 38.5	2 48.4	2 58.2	3 8.1	3 18.0	3 27.8	3 37.7	3 47.5
6	1 59.3	2 9.1	2 19.0	2 28.8	2 38.7	2 48.5	2 58.4	3 8.3	3 18.1	3 28.0	3 37.8	3 47.7
7	1 59.4	2 9.3	2 19.1	2 29.0	2 38.9	2 48.7	2 58.6	3 8.4	3 18.3	3 28.1	3 38.0	3 47.8
8	1 59.6	2 9.4	2 19.3	2 29.2	2 39.0	2 48.9	2 58.7	3 8.6	3 18.4	3 28.3	3 38.2	3 48.0
9	1 59.8	2 9.6	2 19.5	2 29.3	2 39.2	2 49.0	2 58.9	3 8.8	3 18.6	3 28.5	3 38.3	3 48.2
10	1 59.9	2 9.8	2 19.6	2 29.5	2 39.3	2 49.2	2 59.1	3 8.9	3 18.8	3 28.6	3 38.5	3 48.3
11	2 0.1	2 9.9	2 19.8	2 29.7	2 39.5	2 49.4	2 59.2	3 9.1	3 18.9	3 28.8	3 38.6	3 48.5
12	2 0.2	2 10.1	2 20.0	2 29.8	2 39.7	2 49.5	2 59.4	3 9.2	3 19.1	3 29.0	3 38.8	3 48.7
13	2 0.4	2 10.3	2 20.1	2 30.0	2 39.8	2 49.7	2 59.6	3 9.4	3 19.3	3 29.1	3 39.0	3 48.8
14	2 0.6	2 10.4	2 20.3	2 30.1	2 40.0	2 49.9	2 59.7	3 9.6	3 19.4	3 29.3	3 39.1	3 49.0
15	2 0.7	2 10.6	2 20.5	2 30.3	2 40.2	2 50.0	2 59.9	3 9.7	3 19.6	3 29.4	3 39.3	3 49.2
16	2 0.9	2 10.8	2 20.6	2 30.5	2 40.3	2 50.2	3 0.0	3 9.9	3 19.8	3 29.6	3 39.5	3 49.3
17	2 1.1	2 10.9	2 20.8	2 30.6	2 40.5	2 50.4	3 0.2	3 10.1	3 19.9	3 29.8	3 39.6	3 49.5
18	2 1.2	2 11.1	2 20.9	2 30.8	2 40.7	2 50.5	3 0.4	3 10.2	3 20.1	3 29.9	3 39.8	3 49.7
19	2 1.4	2 11.3	2 21.1	2 31.0	2 40.8	2 50.7	3 0.5	3 10.4	3 20.3	3 30.1	3 40.0	3 49.8
20	2 1.6	2 11.4	2 21.3	2 31.1	2 41.0	2 50.8	3 0.7	3 10.6	3 20.4	3 30.3	3 40.1	3 50.0
21	2 1.7	2 11.6	2 21.4	2 31.3	2 41.2	2 51.0	3 0.9	3 10.7	3 20.6	3 30.4	3 40.3	3 50.1
22	2 1.9	2 11.7	2 21.6	2 31.5	2 41.3	2 51.2	3 1.0	3 10.9	3 20.7	3 30.6	3 40.5	3 50.3
23	2 2.1	2 11.9	2 21.8	2 31.6	2 41.5	2 51.3	3 1.2	3 11.1	3 20.9	3 30.8	3 40.6	3 50.5
24	2 2.2	2 12.1	2 21.9	2 31.8	2 41.6	2 51.5	3 1.4	3 11.2	3 21.1	3 30.9	3 40.8	3 50.6
25	2 2.4	2 12.2	2 22.1	2 32.0	2 41.8	2 51.7	3 1.5	3 11.4	3 21.2	3 31.1	3 40.9	3 50.8
26	2 2.5	2 12.4	2 22.3	2 32.1	2 42.0	2 51.8	3 1.7	3 11.5	3 21.4	3 31.3	3 41.1	3 51.0
27	2 2.7	2 12.6	2 22.4	2 32.3	2 42.1	2 52.0	3 1.9	3 11.7	3 21.6	3 31.4	3 41.3	3 51.1
28	2 2.9	2 12.7	2 22.6	2 32.4	2 42.3	2 52.2	3 2.0	3 11.9	3 21.7	3 31.6	3 41.4	3 51.3
29	2 3.0	2 12.9	2 22.8	2 32.6	2 42.5	2 52.3	3 2.2	3 12.0	3 21.9	3 31.8	3 41.6	3 51.5
30	2 3.2	2 13.1	2 22.9	2 32.8	2 42.6	2 52.5	3 2.3	3 12.2	3 22.1	3 31.9	3 41.8	3 51.6
31	2 3.4	2 13.2	2 23.1	2 32.9	2 42.8	2 52.7	3 2.5	3 12.4	3 22.2	3 32.1	3 41.9	3 51.8
32	2 3.5	2 13.4	2 23.2	2 33.1	2 43.0	2 52.8	3 2.7	3 12.5	3 22.4	3 32.2	3 42.1	3 52.0
33	2 3.7	2 13.6	2 23.4	2 33.3	2 43.1	2 53.0	3 2.8	3 12.7	3 22.6	3 32.4	3 42.3	3 52.1
34	2 3.9	2 13.7	2 23.6	2 33.4	2 43.3	2 53.1	3 3.0	3 12.9	3 22.7	3 32.6	3 42.4	3 52.3
35	2 4.0	2 13.9	2 23.7	2 33.6	2 43.5	2 53.3	3 3.2	3 13.0	3 22.9	3 32.7	3 42.6	3 52.4
36	2 4.2	2 14.0	2 23.9	2 33.8	2 43.6	2 53.5	3 3.3	3 13.2	3 23.0	3 32.9	3 42.8	3 52.6
37	2 4.4	2 14.2	2 24.1	2 33.9	2 43.8	2 53.6	3 3.5	3 13.4	3 23.2	3 33.1	3 42.9	3 52.8
38	2 4.5	2 14.4	2 24.2	2 34.1	2 43.9	2 53.8	3 3.7	3 13.5	3 23.4	3 33.2	3 43.1	3 52.9
39	2 4.7	2 14.5	2 24.4	2 34.3	2 44.1	2 54.0	3 3.8	3 13.7	3 23.5	3 33.4	3 43.2	3 53.1
40	2 4.8	2 14.7	2 24.6	2 34.4	2 44.3	2 54.1	3 4.0	3 13.8	3 23.7	3 33.6	3 43.4	3 53.3
41	2 5.0	2 14.9	2 24.7	2 34.6	2 44.4	2 54.3	3 4.2	3 14.0	3 23.9	3 33.7	3 43.6	3 53.4
42	2 5.2	2 15.0	2 24.9	2 34.7	2 44.6	2 54.5	3 4.3	3 14.2	3 24.0	3 33.9	3 43.7	3 53.6
43	2 5.3	2 15.2	2 25.1	2 34.9	2 44.8	2 54.6	3 4.5	3 14.3	3 24.2	3 34.0	3 43.9	3 53.8
44	2 5.5	2 15.4	2 25.2	2 35.1	2 44.9	2 54.8	3 4.6	3 14.5	3 24.4	3 34.2	3 44.1	3 53.9
45	2 5.7	2 15.5	2 25.4	2 35.2	2 45.1	2 55.0	3 4.8	3 14.7	3 24.5	3 34.4	3 44.2	3 54.1
46	2 5.8	2 15.7	2 25.5	2 35.4	2 45.3	2 55.1	3 5.0	3 14.8	3 24.7	3 34.5	3 44.4	3 54.3
47	2 6.0	2 15.9	2 25.7	2 35.6	2 45.4	2 55.3	3 5.1	3 15.0	3 24.8	3 34.7	3 44.6	3 54.4
48	2 6.2	2 16.0	2 25.9	2 35.7	2 45.6	2 55.4	3 5.3	3 15.2	3 25.0	3 34.9	3 44.7	3 54.6
49	2 6.3	2 16.2	2 26.0	2 35.9	2 45.8	2 55.6	3 5.5	3 15.3	3 25.2	3 35.0	3 44.9	3 54.7
50	2 6.5	2 16.3	2 26.2	2 36.1	2 45.9	2 55.8	3 5.6	3 15.5	3 25.3	3 35.2	3 45.1	3 54.9
51	2 6.7	2 16.5	2 26.4	2 36.2	2 46.1	2 55.9	3 5.8	3 15.7	3 25.5	3 35.4	3 45.2	3 55.1
52	2 6.8	2 16.7	2 26.5	2 36.4	2 46.2	2 56.1	3 6.0	3 15.8	3 25.7	3 35.5	3 45.4	3 55.2
53	2 7.0	2 16.8	2 26.7	2 36.6	2 46.4	2 56.3	3 6.1	3 16.0	3 25.8	3 35.7	3 45.5	3 55.4
54	2 7.1	2 17.0	2 26.9	2 36.7	2 46.6	2 56.4	3 6.3	3 16.1	3 26.0	3 35.9	3 45.7	3 55.6
55	2 7.3	2 17.2	2 27.0	2 36.9	2 46.7	2 56.6	3 6.5	3 16.3	3 26.2	3 36.0	3 45.9	3 55.7
56	2 7.5	2 17.3	2 27.2	2 37.0	2 46.9	2 56.8	3 6.6	3 16.5	3 26.3	3 36.2	3 46.0	3 55.9
57	2 7.6	2 17.5	2 27.4	2 37.2	2 47.1	2 56.9	3 6.8	3 16.6	3 26.5	3 36.4	3 46.2	3 56.1
58	2 7.8	2 17.7	2 27.5	2 37.4	2 47.2	2 57.1	3 6.9	3 16.8	3 26.7	3 36.5	3 46.4	3 56.2
59	2 8.0	2 17.8	2 27.7	2 37.5	2 47.4	2 57.3	3 7.1	3 17.0	3 26.8	3 36.7	3 46.5	3 56.4
Mean Solar.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .

TABLE IV.—LATITUDE BY POLARIS.

TABLE FOR FINDING THE LATITUDE BY AN OBSERVED ALTITUDE OF POLARIS.

Reduce the observed altitude of Polaris to the true altitude.

Reduce the recorded time of observation to local sidereal time.

If the sidereal time is $\begin{cases} \text{less than } 1^{\text{h}} 19^{\text{m}}.1, \text{ subtract it from } 1^{\text{h}} 19^{\text{m}}.1; \\ \text{between } 1^{\text{h}} 19^{\text{m}}.1 \text{ and } 13^{\text{h}} 19^{\text{m}}.1, \text{ subtract } 1^{\text{h}} 19^{\text{m}}.1 \text{ from it;} \\ \text{greater than } 13^{\text{h}} 19^{\text{m}}.1, \text{ subtract it from } 25^{\text{h}} 19^{\text{m}}.1; \end{cases}$

and the remainder is the hour-angle of Polaris.

With this hour-angle take out the correction from Table IV (below), and add it to or subtract it from the true altitude, according to its sign. The result is the latitude of the place.

Example.—1892, November 10, at 9^h 29^m 29^s, P. M., mean solar time, in longitude 29° east of Greenwich, suppose the true altitude of Polaris to be 29° 29': required the latitude of the place.

Local astronomical mean time	^h ^m ^s 9 29 29
Reduction from Table III, for 9 ^h 29 ^m 29 ^s	+ 1 34
Greenwich sidereal time of mean noon, November 10, page 183	15 20 25.3
Reduction from Table III, for longitude (= 1 ^h 56 ^m east, or minus)	— 0 19
Sum (having regard to signs) is equal to local sidereal time	<u>0 51 9.3</u>
	^h ^m ^s 1 19 6
Subtract sidereal time	<u>0 51 9.3</u>
Remainder is equal to hour-angle of Polaris	0 27 56.7
True altitude	+ 29 29.0
Correction from Table IV (below)	— 1 15.3
Approximate Latitude	<u>+ 28 13.7</u>

TABLE IV—1892.

Hour-Angle.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .
^m						
0	— 1 15.9 0.0	— 1 13.3 0.5	— 1 5.6 0.9	— 0 53.3 1.3	— 0 37.1 1.4	— 0 18.7 1.6
5	1 15.9 0.1	1 12.8 0.5	1 4.7 0.9	0 52.1 1.3	0 35.7 1.5	0 17.1 1.6
10	1 15.8 0.1	1 12.3 0.5	1 3.8 0.9	0 50.8 1.3	0 34.2 1.5	0 15.5 1.6
15	1 15.7 0.1	1 11.8 0.5	1 2.9 0.9	0 49.6 1.3	0 32.7 1.5	0 13.9 1.6
20	— 1 15.6 0.2	— 1 11.2 0.6	— 1 1.9 1.0	— 0 48.3 1.3	— 0 31.2 1.4	— 0 12.3 1.6
25	1 15.4 0.2	1 10.6 0.6	1 0.9 1.0	0 47.0 1.3	0 29.8 1.4	0 10.7 1.6
30	1 15.2 0.2	1 10.0 0.6	0 59.9 1.1	0 45.7 1.3	0 28.3 1.5	0 9.0 1.7
35	1 15.0 0.2	1 9.4 0.6	0 58.8 1.1	0 44.3 1.4	0 26.7 1.6	0 7.4 1.6
40	— 1 14.8 0.3	— 1 8.7 0.7	— 0 57.7 1.0	— 0 42.9 1.4	— 0 25.1 1.5	— 0 5.8 1.7
45	1 14.5 0.3	1 8.0 0.7	0 56.7 1.0	0 41.5 1.4	0 23.6 1.6	0 4.1 1.7
50	1 14.1 0.4	1 7.2 0.8	0 55.6 1.1	0 40.1 1.4	0 22.0 1.6	0 2.4 1.7
55	1 13.7 0.4	1 6.4 0.8	0 54.5 1.1	0 38.6 1.5	0 20.4 1.6	— 0 0.8 1.6
60	— 1 13.3 0.4	— 1 5.6 0.8	— 0 53.3 1.2	— 0 37.1 1.5	— 0 18.7 1.7	+ 0 0.9 1.7
Hour-Angle.	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
^m						
0	+ 0 0.9 1.7	+ 0 20.3 1.6	+ 0 38.4 1.4	+ 0 54.1 1.1	+ 1 6.0 0.8	+ 1 13.4 0.4
5	0 2.6 1.7	0 21.9 1.6	0 39.8 1.4	0 55.2 1.1	1 6.8 0.8	1 13.8 0.4
10	0 4.3 1.7	0 23.5 1.6	0 41.2 1.4	0 56.3 1.1	1 7.6 0.8	1 14.2 0.4
15	0 5.9 1.6	0 25.0 1.5	0 42.6 1.4	0 57.3 1.1	1 8.3 0.7	1 14.6 0.4
20	+ 0 7.5 1.6	+ 0 26.6 1.6	+ 0 44.0 1.4	+ 0 58.4 1.1	+ 1 9.0 0.6	+ 1 14.9 0.3
25	0 9.1 1.6	0 28.2 1.6	0 45.4 1.4	0 59.5 1.1	1 9.6 0.6	1 15.2 0.3
30	0 10.7 1.6	0 29.8 1.6	0 46.7 1.3	1 0.5 1.0	1 10.2 0.6	1 15.4 0.3
35	0 12.3 1.6	0 31.3 1.5	0 47.9 1.3	1 1.5 1.0	1 10.8 0.6	1 15.5 0.1
40	+ 0 13.9 1.6	+ 0 32.7 1.4	+ 0 49.2 1.3	+ 1 2.5 1.0	+ 1 11.4 0.6	+ 1 15.6 0.1
45	0 15.6 1.7	0 34.2 1.5	0 50.5 1.3	1 3.4 0.9	1 11.9 0.5	1 15.7 0.1
50	0 17.2 1.6	0 35.7 1.5	0 51.7 1.2	1 4.3 0.9	1 12.4 0.5	1 15.8 0.1
55	0 18.7 1.5	0 37.1 1.4	0 52.9 1.2	1 5.2 0.9	1 12.9 0.5	1 15.9 0.1
60	+ 0 20.3 1.6	+ 0 38.4 1.3	+ 0 54.1 1.2	+ 1 6.0 0.8	+ 1 13.4 0.5	+ 1 15.9 0.0

THE

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AMERICAN
NAUTICAL ALMANAC

FOR THE YEAR

1 8 9 3

SECOND EDITION

PUBLISHED BY AUTHORITY OF THE SECRETARY OF THE NAVY

WASHINGTON
BUREAU OF EQUIPMENT
1893

PRICE 50 CENTS

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FOR THE YEAR

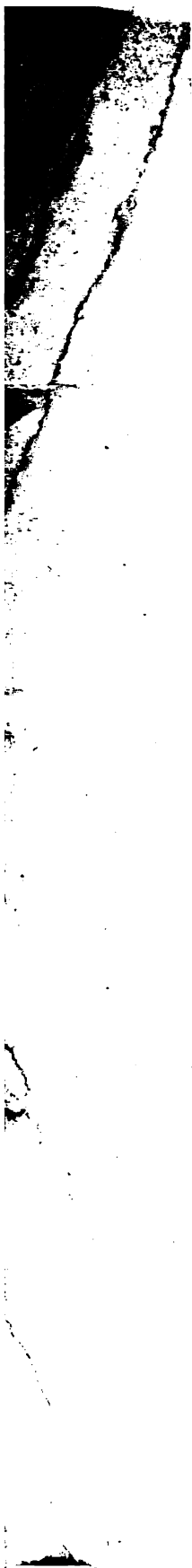
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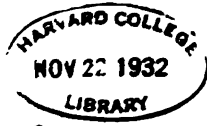
FOR THE YEAR

1 8 9 3

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WASHINGTON
BUREAU OF EQUIPMENT
1892



Gratis

PREFACE.

THE portion of *The American Ephemeris and Nautical Almanac* contained in this volume is designed for the special use of navigators, and is adapted to the meridian of Greenwich. It contains the ephemerides of the sun and moon; the distances of the moon from the centres of the sun and of the four most conspicuous planets and from certain fixed stars; the ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn; and the mean places of 150 fixed stars for the beginning of the year 1893. Elements of the eclipses which occur during the year, with charts of the eclipses of the sun, are also given. Tables for the reduction of mean and sidereal time and for finding the latitude by observation of the altitude of Polaris have been appended.

The methods, tables and constants that have been used in the construction of the Almanac, may be learned by reference to the article on the construction of the astronomical and nautical ephemerides, in the larger volume of *The American Ephemeris and Nautical Almanac* for the year 1893.

SIMON NEWCOMB,

Professor U. S. Navy, Superintendent.

WASHINGTON, February, 1890

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- TABLE III.—Reduction of Mean Solar to Sidereal Time.
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CHRONOLOGICAL ERAS AND CYCLES.

CHRONOLOGICAL ERAS.

THE YEAR 1893, WHICH COMPRISES THE LATTER PART OF THE 117TH AND THE BEGINNING OF THE 118TH YEAR OF THE INDEPENDENCE OF THE UNITED STATES OF AMERICA, CORRESPONDS TO—

The year 6606 of the Julian Period;

- “ 7401–7402 of the Byzantine era, the year 7402 commencing on September 1st;
- “ 5653–54 of the Jewish era, the year 5654 commencing on September 11th, or, more exactly, at sunset on September 10th;
- “ 2646 since the foundation of Rome, according to VARRO;
- “ 2640 since the beginning of the era of NABONASSAR, which has been assigned to Wednesday, the 26th of February of the 3967th year of the Julian Period; corresponding, in the notation of chronologists, to the 747th; and, in the notation of astronomers, to the 746th year before the birth of CHRIST;
- “ 2669 of the Olympiads, or the first year of the 668th Olympiad commencing in July, 1893, if we fix the era of the Olympiads at 775½ years before CHRIST, or near the beginning of July of the year 3938 of the Julian Period;
- “ 2205 of the Grecian era, or the era of the Seleucidæ;
- “ 1609 of the era of DIOCLETIAN;
- “ 2553 of the Japanese era and to the 26th year of the period entitled “Meiji.”

The year 1311 of the Mohammedan era, or the era of the Hegira, begins on the 15th day of July, 1893.

The first day of January of the year 1893 is the 2,412,465th day since the commencement of the Julian Period.

CHRONOLOGICAL CYCLES.

Dominical Letter	A	Solar Cycle	26
Epact	12	Roman Indiction	6
Lunar Cycle or Golden Number	13	Julian Period	6606

SYMBOLS AND ABBREVIATIONS.

SIGNS OF THE PLANETS, ETC.

☉ The Sun. ☾ The Moon. ☿ Mercury. ♀ Venus. ♁ The Earth.	♂ Mars. ♃ Jupiter. ♄ Saturn. ♅ Uranus. ♆ Neptune.
--	--

SIGNS OF THE ZODIAC.

Spring Signs. { 1. ♈ Aries. 2. ♉ Taurus. 3. ♊ Gemini. Summer Signs. { 4. ♋ Cancer. 5. ♌ Leo. 6. ♍ Virgo.	Autumn Signs. { 7. ♎ Libra. 8. ♏ Scorpius. 9. ♐ Sagittarius. Winter Signs. { 10. ♑ Capricornus. 11. ♒ Aquarius. 12. ♒ Pisces.
--	---

ASPECTS.

- ♌ Conjunction, or having the same Longitude or Right Ascension.
- ☐ Quadrature, or differing 90° in Longitude or Right Ascension.
- ♌ Opposition, or differing 180° in Longitude or Right Ascension.

ABBREVIATIONS.

♊ Ascending Node. ♋ Descending Node. N. North. S. South. E. East. W. West.	° Degrees. ' Minutes of Arc. " Seconds of Arc. h Hours. m Minutes of Time. s Seconds of Time.
--	---

ASTRONOMICAL EPHEMERIS

FOR THE

MERIDIAN OF GREENWICH

AT GREENWICH APPARENT NOON

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
<i>SUN.</i>	1	^h 18 ^m 49 ^s 27.23	11.031	S. 22° 58' 4.9"	+13.04	16' 18.41	71.04	^m 4 ^s 0.25	1.172
Mon.	2	18 53 51.79	11.016	22 52 38.4	14.17	16 18.41	70.99	4 28.19	1.156
Tues.	3	18 58 15.98	10.999	22 46 44.7	15.30	16 18.40	70.94	4 55.74	1.139
Wed.	4	19 2 39.76	10.982	22 40 23.8	+16.43	16 18.39	70.88	5 22.88	1.122
Thur.	5	19 7 3.12	10.964	22 33 36.0	17.55	16 18.36	70.82	5 49.61	1.104
Frid.	6	19 11 26.03	10.945	22 26 21.5	18.65	16 18.34	70.76	6 15.89	1.085
Sat.	7	19 15 48.47	10.925	22 18 40.4	+19.76	16 18.30	70.68	6 41.70	1.065
<i>SUN.</i>	8	19 20 10.42	10.904	22 10 33.1	20.85	16 18.26	70.62	7 7.03	1.044
Mon.	9	19 24 31.85	10.881	22 1 59.6	21.93	16 18.22	70.55	7 31.83	1.022
Tues.	10	19 28 52.73	10.858	21 53 0.4	+23.00	16 18.16	70.47	7 56.08	0.999
Wed.	11	19 33 13.04	10.834	21 43 35.4	24.07	16 18.11	70.39	8 19.78	0.975
Thur.	12	19 37 32.77	10.809	21 33 45.2	25.11	16 18.05	70.30	8 42.88	0.950
Frid.	13	19 41 51.89	10.784	21 23 29.9	+26.15	16 17.98	70.22	9 5.38	0.924
Sat.	14	19 46 10.38	10.756	21 12 49.8	27.18	16 17.91	70.12	9 27.24	0.897
<i>SUN.</i>	15	19 50 28.19	10.728	21 1 45.2	28.19	16 17.84	70.03	9 48.45	0.870
Mon.	16	19 54 45.34	10.700	20 50 16.5	+29.20	16 17.77	69.94	10 8.98	0.841
Tues.	17	19 59 1.79	10.670	20 38 23.9	30.18	16 17.69	69.84	10 28.80	0.811
Wed.	18	20 3 17.50	10.640	20 26 7.9	31.15	16 17.60	69.74	10 47.91	0.781
Thur.	19	20 7 32.47	10.608	20 13 28.6	+32.11	16 17.51	69.64	11 6.29	0.750
Frid.	20	20 11 46.69	10.576	20 0 26.6	33.05	16 17.42	69.54	11 23.90	0.718
Sat.	21	20 16 0.13	10.544	19 47 2.2	33.98	16 17.33	69.43	11 40.73	0.685
<i>SUN.</i>	22	20 20 12.78	10.510	19 33 15.7	+34.89	16 17.23	69.33	11 56.78	0.652
Mon.	23	20 24 24.63	10.477	19 19 7.6	35.78	16 17.13	69.22	12 12.04	0.619
Tues.	24	20 28 35.66	10.443	19 4 38.1	36.66	16 17.02	69.11	12 26.47	0.584
Wed.	25	20 32 45.88	10.409	18 49 47.8	+37.52	16 16.91	69.00	12 40.09	0.550
Thur.	26	20 36 55.27	10.374	18 34 37.1	38.37	16 16.80	68.89	12 52.89	0.516
Frid.	27	20 41 3.83	10.339	18 19 6.2	39.20	16 16.68	68.78	13 4.86	0.481
Sat.	28	20 45 11.55	10.304	18 3 15.6	+40.00	16 16.55	68.66	13 15.99	0.446
<i>SUN.</i>	29	20 49 18.43	10.270	17 47 5.7	40.81	16 16.42	68.55	13 26.28	0.412
Mon.	30	20 53 24.49	10.235	17 30 36.9	41.59	16 16.28	68.44	13 35.77	0.378
Tues.	31	20 57 29.71	10.202	17 13 49.6	42.35	16 16.14	68.32	13 44.40	0.343
Wed.	32	21 1 34.10	10.166	S. 16 56 44.2	+43.10	16 15.99	68.21	13 52.22	0.309

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.

* The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
<i>SUN.</i>	1	^h 18 ^m 49 ^s 26.49	11.027	<i>S.</i> 22° 58' 5.8"	+13.06	^m 4 ^s 0.17	1.172	^h 18 ^m 45 ^s 26.32
Mon.	2	18 53 50.97	11.012	22 52 39.5	14.18	4 28.10	1.156	18 49 22.87
Tues.	3	18 58 15.07	10.996	22 46 46.0	15.30	4 55.64	1.139	18 53 19.43
Wed.	4	19 2 38.77	10.979	22 40 25.3	+16.42	5 22.78	1.122	18 57 15.99
Thur.	5	19 7 2.05	10.961	22 33 37.7	17.54	5 49.50	1.104	19 1 12.55
Frid.	6	19 11 24.88	10.942	22 26 23.5	18.65	6 15.77	1.085	19 5 9.11
Sat.	7	19 15 47.25	10.922	22 18 42.7	+19.75	6 41.58	1.065	19 9 5.67
<i>SUN.</i>	8	19 20 9.12	10.901	22 10 35.6	20.84	7 6.90	1.044	19 13 2.22
Mon.	9	19 24 30.48	10.878	22 2 2.4	21.92	7 31.70	1.022	19 16 58.78
Tues.	10	19 28 51.29	10.856	21 53 3.4	+22.99	7 55.95	0.999	19 20 55.34
Wed.	11	19 33 11.54	10.832	21 43 38.8	24.05	8 19.64	0.975	19 24 51.90
Thur.	12	19 37 31.20	10.807	21 33 48.9	25.10	8 42.74	0.950	19 28 48.46
Frid.	13	19 41 50.26	10.781	21 23 33.9	+26.14	9 5.24	0.924	19 32 45.02
Sat.	14	19 46 8.68	10.754	21 12 54.2	27.17	9 27.10	0.897	19 36 41.58
<i>SUN.</i>	15	19 50 26.44	10.726	21 1 49.9	28.18	9 48.31	0.870	19 40 38.13
Mon.	16	19 54 43.53	10.697	20 50 21.5	+29.18	10 8.84	0.841	19 44 34.69
Tues.	17	19 58 59.91	10.668	20 38 29.2	30.17	10 28.66	0.811	19 48 31.25
Wed.	18	20 3 15.58	10.637	20 26 13.5	31.14	10 47.77	0.781	19 52 27.81
Thur.	19	20 7 30.51	10.606	20 13 34.6	+32.09	11 6.15	0.750	19 56 24.36
Frid.	20	20 11 44.68	10.574	20 0 33.0	33.04	11 23.76	0.718	20 0 20.92
Sat.	21	20 15 58.08	10.542	19 47 8.8	33.96	11 40.60	0.685	20 4 17.48
<i>SUN.</i>	22	20 20 10.69	10.509	19 33 22.7	+34.87	11 56.65	0.652	20 8 14.04
Mon.	23	20 24 22.50	10.475	19 19 14.9	35.77	12 11.91	0.619	20 12 10.59
Tues.	24	20 28 33.50	10.441	19 4 45.8	36.65	12 26.35	0.585	20 16 7.15
Wed.	25	20 32 43.68	10.407	18 49 55.8	+37.51	12 39.97	0.551	20 20 3.71
Thur.	26	20 36 53.04	10.373	18 34 45.4	38.35	12 52.78	0.516	20 24 0.26
Frid.	27	20 41 1.57	10.337	18 19 14.8	39.19	13 4.75	0.481	20 27 56.82
Sat.	28	20 45 9.27	10.303	18 3 24.5	+40.00	13 15.89	0.447	20 31 53.38
<i>SUN.</i>	29	20 49 16.13	10.269	17 47 15.0	40.81	13 26.19	0.412	20 35 49.94
Mon.	30	20 53 22.17	10.234	17 30 46.4	41.57	13 35.68	0.378	20 39 46.49
Tues.	31	20 57 27.37	10.200	17 13 59.4	42.34	13 44.32	0.343	20 43 43.05
Wed.	32	21 1 31.75	10.165	<i>S.</i> 16 56 54.2	+43.09	13 52.15	0.309	20 47 39.60

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.

Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	1	281° 22' 21.3	22' 30.3	152.85	+ 0.43	9.9926526	+ 0.2	^h 5 ^m 13 ^s 42.15
2	2	282 23 29.6	23 38.4	152.85	0.50	9.9926538	1.1	5 9 46.24
3	3	283 24 37.9	24 46.5	152.85	0.54	9.9926578	2.3	5 5 50.33
4	4	284 25 46.2	25 54.6	152.84	+ 0.55	9.9926647	+ 3.5	5 1 54.41
5	5	285 26 54.4	27 2.6	152.84	0.53	9.9926745	4.6	4 57 58.50
6	6	286 28 2.6	28 10.6	152.84	0.48	9.9926870	5.8	4 54 2.59
7	7	287 29 10.8	29 18.6	152.84	+ 0.41	9.9927022	+ 6.9	4 50 6.67
8	8	288 30 19.0	30 26.6	152.84	0.31	9.9927200	7.9	4 46 10.77
9	9	289 31 27.2	31 34.6	152.84	0.19	9.9927403	9.0	4 42 14.85
10	10	290 32 35.4	32 42.6	152.84	+ 0.05	9.9927630	+ 9.9	4 38 18.94
11	11	291 33 43.5	33 50.6	152.84	- 0.08	9.9927878	10.8	4 34 23.03
12	12	292 34 51.5	34 58.4	152.83	0.21	9.9928146	11.6	4 30 27.11
13	13	293 35 59.4	36 6.1	152.83	- 0.33	9.9928434	+12.4	4 26 31.20
14	14	294 37 7.1	37 13.6	152.81	0.44	9.9928741	13.1	4 22 35.28
15	15	295 38 14.4	38 20.8	152.80	0.53	9.9929065	13.8	4 18 39.38
16	16	296 39 21.3	39 27.5	152.78	- 0.60	9.9929404	+14.5	4 14 43.47
17	17	297 40 27.7	40 33.7	152.75	0.64	9.9929759	15.1	4 10 47.55
18	18	298 41 33.5	41 39.3	152.73	0.65	9.9930130	15.8	4 6 51.64
19	19	299 42 38.6	42 44.3	152.70	- 0.62	9.9930517	+16.5	4 2 55.73
20	20	300 43 42.9	43 48.4	152.66	0.56	9.9930920	17.1	3 58 59.82
21	21	301 44 46.3	44 51.6	152.62	0.48	9.9931340	17.8	3 55 3.90
22	22	302 45 48.7	45 53.9	152.58	- 0.37	9.9931776	+18.5	3 51 7.99
23	23	303 46 50.0	46 55.0	152.53	0.25	9.9932230	19.3	3 47 12.09
24	24	304 47 50.3	47 55.1	152.49	- 0.12	9.9932702	20.1	3 43 16.17
25	25	305 48 49.4	48 54.0	152.44	+ 0.01	9.9933193	+20.9	3 39 20.26
26	26	306 49 47.3	49 51.8	152.39	0.14	9.9933705	21.8	3 35 24.35
27	27	307 50 44.0	50 48.3	152.34	0.25	9.9934240	22.8	3 31 28.44
28	28	308 51 39.6	51 43.8	152.29	+ 0.35	9.9934799	+23.8	3 27 32.53
29	29	309 52 33.9	52 37.9	152.24	0.43	9.9935381	24.8	3 23 36.61
30	30	310 53 26.9	53 30.7	152.18	0.48	9.9935988	25.8	3 19 40.71
31	31	311 54 18.7	54 22.4	152.13	0.50	9.9936620	26.9	3 15 44.79
32	32	312 55 9.3	55 12.8	152.09	+ 0.48	9.9937277	+27.9	3 11 48.89

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0^h.

Diff. for 1 Hour.
— 9^h. 8296.
(Table II.)

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S								
	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	16 28.2	16 25.7	60 20.3	-0.63	60 10.9	-0.93	11 29.2	2.69	13.2
2	16 22.1	16 17.7	59 57.9	1.23	59 41.5	1.49	12 34.2	2.63	14.2
3	16 12.4	16 6.4	59 22.1	1.72	59 0.2	1.90	13 35.0	2.43	15.2
4	16 0.0	15 53.1	58 36.5	-2.04	58 11.3	-2.13	14 30.4	2.19	16.2
5	15 46.0	15 38.9	57 45.3	2.17	57 19.2	2.16	15 20.5	1.99	17.2
6	15 31.9	15 25.1	56 53.4	2.12	56 28.4	2.03	16 6.2	1.83	18.2
7	15 18.6	15 12.6	56 4.7	-1.91	55 42.6	-1.76	16 48.6	1.72	19.2
8	15 7.1	15 2.2	55 22.5	1.59	55 4.5	1.40	17 29.3	1.68	20.2
9	14 57.9	14 54.4	54 49.0	1.19	54 35.9	0.98	18 9.5	1.68	21.2
10	14 51.6	14 49.5	54 25.4	-0.76	54 17.6	-0.55	18 50.4	1.73	22.2
11	14 48.0	14 47.3	54 12.3	-0.33	54 9.6	-0.12	19 33.0	1.82	23.2
12	14 47.2	14 47.8	54 9.4	+0.08	54 11.6	+0.27	20 18.2	1.95	24.2
13	14 49.0	14 50.8	54 15.9	+0.45	54 22.4	+0.62	21 6.5	2.07	25.2
14	14 53.0	14 55.8	54 30.7	0.76	54 40.7	0.89	21 57.8	2.19	26.2
15	14 58.9	15 2.3	54 52.1	1.00	55 4.8	1.10	22 51.2	2.26	27.2
16	15 6.0	15 10.0	55 18.5	+1.17	55 32.9	+1.22	23 45.4	2.26	28.2
17	15 14.0	15 18.2	55 47.8	1.25	56 3.0	1.28	0 38.9	2.19	29.2
18	15 22.4	15 26.5	56 18.4	1.28	56 33.7	1.26	0 38.9	2.19	0.4
19	15 30.6	15 34.6	56 48.7	+1.24	57 3.5	+1.21	1 30.6	2.11	1.4
20	15 38.5	15 42.3	57 17.8	1.18	57 31.7	1.13	2 19.9	2.01	2.4
21	15 45.9	15 49.4	57 45.0	1.09	57 57.8	1.04	3 7.3	1.95	3.4
22	15 52.7	15 55.9	58 10.0	+0.99	58 21.6	+0.95	3 53.6	1.93	4.4
23	15 58.9	16 1.7	58 32.7	0.90	58 43.1	0.84	4 39.9	1.95	5.4
24	16 4.4	16 6.9	58 52.8	0.78	59 1.9	0.72	5 27.6	2.03	6.4
25	16 9.1	16 11.0	59 10.0	+0.63	59 17.1	+0.55	6 18.1	2.18	7.4
26	16 12.6	16 13.9	59 23.1	0.44	59 27.7	0.32	7 12.5	2.35	8.4
27	16 14.7	16 15.1	59 30.8	+0.18	59 32.0	+0.02	8 11.1	2.52	9.4
28	16 14.9	16 14.1	59 31.3	-0.15	59 28.4	-0.34	9 13.1	2.63	10.4
29	16 12.7	16 10.6	59 23.2	0.53	59 15.6	0.73	10 16.4	2.62	11.4
30	16 7.9	16 4.5	59 5.6	0.93	58 53.2	1.13	11 18.0	2.49	12.4
31	16 0.5	15 56.0	58 38.6	1.30	58 22.1	1.45	12 15.5	2.30	13.4
32	15 51.0	15 45.7	58 3.8	-1.58	57 44.2	-1.68	13 8.2	2.10	14.4

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	5 45 13.69	2.7694	N.27° 20' 29.0"	2.907	0	7 55 50.28	2.6059	N.25° 51' 20.4"	6.406
1	5 47 59.48	2.7638	27 23 22.7	2.793	1	7 58 26.41	2.5985	25 44 51.0	6.574
2	5 50 45.35	2.7652	27 26 4.0	2.586	2	8 1 2.10	2.5911	25 38 11.5	6.741
3	5 53 31.30	2.7663	27 28 33.0	2.380	3	8 3 37.34	2.5835	25 31 22.1	6.905
4	5 56 17.31	2.7673	27 30 49.6	2.173	4	8 6 12.12	2.5758	25 24 22.9	7.067
5	5 59 3.36	2.7678	27 32 53.8	1.966	5	8 8 46.43	2.5680	25 17 14.0	7.227
6	6 1 49.45	2.7683	27 34 45.5	1.758	6	8 11 20.28	2.5602	25 9 55.6	7.385
7	6 4 35.56	2.7685	27 36 24.8	1.552	7	8 13 53.65	2.5523	25 2 27.7	7.542
8	6 7 21.67	2.7685	27 37 51.8	1.346	8	8 16 26.54	2.5441	24 54 50.5	7.697
9	6 10 7.78	2.7684	27 39 6.3	1.139	9	8 18 58.94	2.5360	24 47 4.0	7.851
10	6 12 53.88	2.7681	27 40 8.4	0.932	10	8 21 30.86	2.5278	24 39 8.4	8.002
11	6 15 39.95	2.7674	27 40 58.1	0.724	11	8 24 2.28	2.5196	24 31 3.8	8.150
12	6 18 25.97	2.7666	27 41 35.3	0.517	12	8 26 33.21	2.5113	24 22 50.4	8.297
13	6 21 11.94	2.7656	27 42 0.1	0.310	13	8 29 3.64	2.5029	24 14 28.2	8.443
14	6 23 57.84	2.7643	27 42 12.5	+ 0.104	14	8 31 33.56	2.4945	24 5 57.3	8.587
15	6 26 43.66	2.7628	27 42 12.6	- 0.109	15	8 34 2.98	2.4861	23 57 17.8	8.728
16	6 29 29.38	2.7611	27 42 0.3	0.307	16	8 36 31.89	2.4776	23 48 29.9	8.867
17	6 32 14.99	2.7592	27 41 35.7	0.513	17	8 39 0.29	2.4690	23 39 33.7	9.004
18	6 35 0.48	2.7571	27 40 58.7	0.718	18	8 41 28.17	2.4604	23 30 29.4	9.139
19	6 37 45.84	2.7547	27 40 9.5	0.923	19	8 43 55.54	2.4518	23 21 17.0	9.273
20	6 40 31.05	2.7522	27 39 8.0	1.127	20	8 46 22.39	2.4432	23 11 56.6	9.405
21	6 43 16.10	2.7494	27 37 54.3	1.330	21	8 48 48.72	2.4345	23 2 28.3	9.536
22	6 46 0.98	2.7464	27 36 28.4	1.532	22	8 51 14.53	2.4258	22 52 52.3	9.663
23	6 48 45.67	2.7432	N.27 34 50.4	1.733	23	8 53 39.82	2.4171	N.22 43 8.8	9.786
MONDAY 2.					WEDNESDAY 4.				
0	6 51 30.17	2.7399	N.27 33 0.4	1.934	0	8 56 4.58	2.4084	N.22 33 17.8	9.912
1	6 54 14.46	2.7363	27 30 58.3	2.135	1	8 58 28.82	2.3997	22 23 19.4	10.033
2	6 56 58.53	2.7325	27 28 44.2	2.334	2	9 0 52.54	2.3909	22 13 13.8	10.153
3	6 59 42.36	2.7285	27 26 18.2	2.532	3	9 3 15.73	2.3821	22 3 1.0	10.271
4	7 2 25.95	2.7244	27 23 40.3	2.730	4	9 5 38.39	2.3733	21 52 41.2	10.387
5	7 5 9.29	2.7201	27 20 50.6	2.927	5	9 8 0.53	2.3646	21 42 14.6	10.500
6	7 7 52.36	2.7155	27 17 49.1	3.123	6	9 10 22.15	2.3559	21 31 41.2	10.612
7	7 10 35.15	2.7107	27 14 35.9	3.317	7	9 12 43.24	2.3472	21 21 1.1	10.722
8	7 13 17.65	2.7058	27 11 11.1	3.509	8	9 15 3.81	2.3385	21 10 14.5	10.830
9	7 15 59.85	2.7007	27 7 34.8	3.701	9	9 17 23.86	2.3297	20 59 21.5	10.937
10	7 18 41.74	2.6955	27 3 47.0	3.892	10	9 19 43.38	2.3211	20 48 22.1	11.041
11	7 21 23.31	2.6900	26 59 47.8	4.080	11	9 22 2.39	2.3125	20 37 16.5	11.143
12	7 24 4.54	2.6844	26 55 37.4	4.268	12	9 24 20.88	2.3038	20 26 4.9	11.243
13	7 26 45.43	2.6787	26 51 15.7	4.455	13	9 26 38.85	2.2952	20 14 47.3	11.342
14	7 29 25.98	2.6728	26 46 42.8	4.640	14	9 28 56.31	2.2867	20 3 23.8	11.439
15	7 32 6.17	2.6667	26 41 58.9	4.823	15	9 31 13.25	2.2781	19 51 54.6	11.533
16	7 34 45.99	2.6605	26 37 4.0	5.006	16	9 33 29.68	2.2696	19 40 19.8	11.626
17	7 37 25.43	2.6542	26 31 58.1	5.187	17	9 35 45.60	2.2612	19 28 39.5	11.717
18	7 40 4.49	2.6477	26 26 41.5	5.366	18	9 38 1.02	2.2528	19 16 53.7	11.807
19	7 42 43.16	2.6411	26 21 14.2	5.543	19	9 40 15.93	2.2444	19 5 2.6	11.894
20	7 45 21.42	2.6343	26 15 36.3	5.720	20	9 42 30.34	2.2361	18 53 6.4	11.979
21	7 47 59.27	2.6273	26 9 47.8	5.895	21	9 44 44.26	2.2278	18 41 5.1	12.063
22	7 50 36.70	2.6203	26 3 48.9	6.067	22	9 46 57.68	2.2196	18 28 58.8	12.146
23	7 53 13.71	2.6132	25 57 39.7	6.237	23	9 49 10.61	2.2114	18 16 47.6	12.226
24	7 55 50.28	2.6059	N.25 51 20.4	6.406	24	9 51 23.05	2.2032	N.18 4 31.7	12.304

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	^h 9 ^m 51 ^s 23.05	2.2039	N. 18° 4' 31.7"	12.364	0	^h 11 ^m 29 ^s 6.49	1.8995	N. 7° 13' 4.2"	14.318
1	9 53 35.00	2.1959	17 52 11.1	12.361	1	11 31 0.33	1.8953	6 58 44.8	14.330
2	9 55 46.47	2.1879	17 39 46.0	12.456	2	11 32 53.92	1.8912	6 44 24.6	14.349
3	9 57 57.46	2.1792	17 27 16.4	12.559	3	11 34 47.27	1.8871	6 30 3.8	14.361
4	10 0 7.97	2.1713	17 14 42.5	12.601	4	11 36 40.37	1.8830	6 15 42.5	14.360
5	10 2 18.01	2.1635	17 2 4.3	12.671	5	11 38 33.23	1.8791	6 1 20.6	14.368
6	10 4 27.59	2.1557	16 49 22.0	12.739	6	11 40 25.86	1.8753	5 46 58.3	14.375
7	10 6 36.70	2.1480	16 36 35.6	12.806	7	11 42 18.26	1.8715	5 32 35.6	14.381
8	10 8 45.35	2.1403	16 23 45.3	12.870	8	11 44 10.44	1.8679	5 18 12.6	14.386
9	10 10 53.54	2.1327	16 10 51.2	12.933	9	11 46 2.41	1.8644	5 3 49.3	14.390
10	10 13 1.27	2.1252	15 57 53.4	12.995	10	11 47 54.17	1.8609	4 49 25.8	14.394
11	10 15 8.56	2.1178	15 44 51.8	13.057	11	11 49 45.72	1.8575	4 35 2.1	14.397
12	10 17 15.41	2.1105	15 31 46.6	13.116	12	11 51 37.07	1.8542	4 20 36.2	14.398
13	10 19 21.82	2.1032	15 18 37.9	13.172	13	11 53 28.22	1.8510	4 6 14.3	14.398
14	10 21 27.79	2.0959	15 5 25.9	13.227	14	11 55 19.19	1.8479	3 51 50.4	14.398
15	10 23 33.33	2.0887	14 52 10.7	13.280	15	11 57 9.97	1.8448	3 37 26.5	14.397
16	10 25 38.44	2.0817	14 38 52.3	13.333	16	11 59 0.57	1.8419	3 23 2.7	14.395
17	10 27 43.14	2.0748	14 25 30.7	13.385	17	12 0 51.00	1.8390	3 8 39.1	14.392
18	10 29 47.42	2.0679	14 12 6.1	13.434	18	12 2 41.25	1.8362	2 54 15.7	14.388
19	10 31 51.29	2.0611	13 58 38.6	13.482	19	12 4 31.34	1.8336	2 39 52.5	14.384
20	10 33 54.75	2.0544	13 45 8.2	13.529	20	12 6 21.28	1.8310	2 25 29.6	14.379
21	10 35 57.81	2.0477	13 31 35.1	13.574	21	12 8 11.06	1.8284	2 11 7.0	14.373
22	10 38 0.47	2.0410	13 17 59.3	13.618	22	12 10 0.69	1.8260	1 56 44.8	14.366
23	10 40 2.73	2.0344	N. 13 4 20.9	13.661	23	12 11 50.18	1.8237	N. 1 42 23.1	14.359
FRIDAY 6.					SUNDAY 8.				
0	10 42 4.60	2.0280	N. 12 50 40.0	13.702	0	12 13 39.53	1.8214	N. 1 28 1.8	14.351
1	10 44 6.09	2.0217	12 36 56.7	13.742	1	12 15 28.75	1.8192	1 13 41.0	14.349
2	10 46 7.21	2.0155	12 23 11.0	13.780	2	12 17 17.84	1.8172	0 59 20.8	14.331
3	10 48 7.95	2.0093	12 9 23.1	13.817	3	12 19 6.81	1.8152	0 45 1.3	14.330
4	10 50 8.32	2.0032	11 55 33.0	13.853	4	12 20 55.66	1.8132	0 30 42.4	14.309
5	10 52 8.33	1.9972	11 41 40.7	13.888	5	12 22 44.39	1.8113	0 16 24.2	14.297
6	10 54 7.99	1.9913	11 27 46.4	13.922	6	12 24 33.01	1.8095	N. 0 2 6.7	14.285
7	10 56 7.29	1.9855	11 13 50.1	13.953	7	12 26 21.53	1.8079	S. 0 12 10.0	14.271
8	10 58 6.25	1.9797	10 59 52.0	13.983	8	12 28 9.96	1.8063	0 26 25.8	14.256
9	11 0 4.86	1.9740	10 45 52.1	14.012	9	12 29 58.29	1.8048	0 40 40.7	14.241
10	11 2 3.13	1.9684	10 31 50.5	14.041	10	12 31 46.53	1.8033	0 54 54.7	14.225
11	11 4 1.07	1.9630	10 17 47.2	14.068	11	12 33 34.69	1.8020	1 9 7.7	14.209
12	11 5 58.69	1.9577	10 3 42.3	14.094	12	12 35 22.77	1.8008	1 23 19.8	14.192
13	11 7 55.99	1.9523	9 49 35.9	14.118	13	12 37 10.78	1.7996	1 37 30.8	14.174
14	11 9 52.97	1.9470	9 35 28.1	14.142	14	12 38 58.72	1.7985	1 51 40.7	14.155
15	11 11 49.63	1.9418	9 21 18.8	14.166	15	12 40 46.60	1.7975	2 5 49.4	14.136
16	11 13 45.99	1.9366	9 7 8.2	14.187	16	12 42 34.42	1.7965	2 19 57.0	14.117
17	11 15 42.05	1.9318	8 52 56.4	14.207	17	12 44 22.18	1.7956	2 34 3.4	14.096
18	11 17 37.81	1.9269	8 38 43.4	14.226	18	12 46 9.89	1.7946	2 48 8.5	14.074
19	11 19 33.28	1.9222	8 24 29.3	14.244	19	12 47 57.56	1.7942	3 2 12.3	14.052
20	11 21 28.47	1.9175	8 10 14.1	14.261	20	12 49 45.19	1.7935	3 16 14.7	14.029
21	11 23 23.38	1.9129	7 55 58.0	14.277	21	12 51 32.78	1.7929	3 30 15.8	14.006
22	11 25 18.02	1.9084	7 41 40.9	14.292	22	12 53 20.34	1.7926	3 44 15.5	13.982
23	11 27 12.39	1.9039	7 27 22.9	14.306	23	12 55 7.88	1.7921	3 58 13.7	13.957
24	11 29 6.49	1.8995	N. 7 13 4.2	14.318	24	12 56 55.40	1.7918	S. 4 12 10.4	13.932

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	12 ^h 56 ^m 55.40 ^s	1.7918	S. 4° 12' 10.4"	13.532	0	14 ^h 24 ^m 0.31 ^s	1.8637	S. 14° 39' 23.0"	11.948
1	12 58 42.90	1.7916	4 26 5.6	13.506	1	14 25 52.23	1.8668	14 51 18.2	11.890
2	13 0 30.39	1.7915	4 39 59.2	13.570	2	14 27 44.33	1.8699	15 3 9.8	11.831
3	13 2 17.88	1.7914	4 53 51.1	13.635	3	14 29 36.62	1.8732	15 14 57.9	11.772
4	13 4 5.36	1.7914	5 7 41.4	13.694	4	14 31 29.11	1.8766	15 26 42.4	11.712
5	13 5 52.85	1.7915	5 21 30.0	13.756	5	14 33 21.81	1.8800	15 38 23.3	11.651
6	13 7 40.34	1.7917	5 35 16.9	13.767	6	14 35 14.71	1.8834	15 50 0.5	11.589
7	13 9 27.85	1.7919	5 49 2.0	13.737	7	14 37 7.82	1.8869	16 1 34.0	11.527
8	13 11 15.37	1.7922	6 2 45.3	13.706	8	14 39 1.14	1.8904	16 13 3.7	11.464
9	13 13 2.91	1.7926	6 16 26.7	13.674	9	14 40 54.67	1.8940	16 24 29.7	11.401
10	13 14 50.48	1.7931	6 30 6.2	13.643	10	14 42 48.42	1.8976	16 35 51.8	11.335
11	13 16 38.08	1.7937	6 43 43.8	13.611	11	14 44 42.39	1.9013	16 47 9.9	11.269
12	13 18 25.72	1.7943	6 57 19.5	13.577	12	14 46 36.58	1.9051	16 58 24.1	11.203
13	13 20 13.40	1.7950	7 10 53.1	13.543	13	14 48 31.00	1.9089	17 9 34.3	11.136
14	13 22 1.12	1.7957	7 24 24.7	13.509	14	14 50 25.65	1.9128	17 20 40.4	11.069
15	13 23 48.88	1.7965	7 37 54.2	13.474	15	14 52 20.54	1.9167	17 31 42.5	11.001
16	13 25 36.70	1.7975	7 51 21.6	13.438	16	14 54 15.66	1.9207	17 42 40.5	10.932
17	13 27 24.58	1.7985	8 4 46.8	13.402	17	14 56 11.02	1.9246	17 53 34.3	10.861
18	13 29 12.52	1.7995	8 18 9.9	13.366	18	14 58 6.61	1.9286	18 4 23.8	10.790
19	13 31 0.52	1.8007	8 31 30.7	13.328	19	15 0 2.45	1.9327	18 15 9.1	10.719
20	13 32 48.60	1.8019	8 44 49.2	13.289	20	15 1 58.54	1.9369	18 25 50.1	10.646
21	13 34 36.75	1.8032	8 58 5.4	13.250	21	15 3 54.88	1.9411	18 36 26.6	10.571
22	13 36 24.98	1.8045	9 11 19.2	13.211	22	15 5 51.47	1.9453	18 46 58.7	10.494
23	13 38 13.29	1.8059	S. 9° 24' 30.7"	13.172	23	15 7 48.32	1.9496	S. 18° 57' 26.4"	10.422
TUESDAY 10.					THURSDAY 12.				
0	13 40 1.69	1.8074	S. 9° 37' 39.8"	13.131	0	15 9 45.42	1.9539	S. 19° 7' 49.5"	10.347
1	13 41 50.18	1.8090	9 50 46.4	13.089	1	15 11 42.78	1.9583	19 18 8.0	10.271
2	13 43 38.77	1.8107	10 3 50.4	13.046	2	15 13 40.41	1.9627	19 28 22.0	10.194
3	13 45 27.46	1.8124	10 16 51.9	13.003	3	15 15 38.30	1.9671	19 38 31.3	10.115
4	13 47 16.26	1.8142	10 29 50.8	12.960	4	15 17 36.46	1.9716	19 48 35.8	10.035
5	13 49 5.16	1.8159	10 42 47.1	12.916	5	15 19 34.89	1.9761	19 58 35.5	9.956
6	13 50 54.17	1.8178	10 55 40.7	12.871	6	15 21 33.59	1.9807	20 8 30.5	9.876
7	13 52 43.30	1.8196	11 8 31.6	12.825	7	15 23 32.57	1.9852	20 18 20.6	9.793
8	13 54 32.55	1.8219	11 21 19.7	12.779	8	15 25 31.82	1.9897	20 28 5.7	9.710
9	13 56 21.93	1.8241	11 34 5.1	12.732	9	15 27 31.34	1.9943	20 37 45.8	9.626
10	13 58 11.44	1.8262	11 46 47.6	12.684	10	15 29 31.14	1.9989	20 47 20.8	9.542
11	14 0 1.08	1.8284	11 59 27.2	12.637	11	15 31 31.23	2.0036	20 56 50.8	9.457
12	14 1 50.85	1.8307	12 12 4.0	12.588	12	15 33 31.60	2.0086	21 6 15.7	9.372
13	14 3 40.76	1.8331	12 24 37.8	12.538	13	15 35 32.26	2.0133	21 15 35.4	9.284
14	14 5 30.82	1.8356	12 37 8.6	12.488	14	15 37 33.20	2.0181	21 24 49.8	9.196
15	14 7 21.04	1.8380	12 49 36.4	12.437	15	15 39 34.43	2.0229	21 33 58.9	9.107
16	14 9 11.41	1.8408	13 2 1.1	12.386	16	15 41 35.95	2.0277	21 43 2.7	9.017
17	14 11 1.94	1.8434	13 14 22.7	12.333	17	15 43 37.76	2.0326	21 52 1.0	8.927
18	14 12 52.62	1.8461	13 26 41.1	12.280	18	15 45 39.86	2.0375	22 0 53.9	8.836
19	14 14 43.47	1.8489	13 38 56.3	12.227	19	15 47 42.26	2.0424	22 9 41.3	8.743
20	14 16 34.49	1.8517	13 51 8.3	12.172	20	15 49 44.95	2.0473	22 18 23.1	8.650
21	14 18 25.68	1.8546	14 3 17.0	12.117	21	15 51 47.93	2.0522	22 26 59.3	8.556
22	14 20 17.04	1.8575	14 15 22.4	12.062	22	15 53 51.21	2.0572	22 35 29.8	8.461
23	14 22 8.58	1.8606	14 27 24.4	12.005	23	15 55 54.79	2.0621	22 43 54.6	8.365
24	14 24 0.31	1.8637	S. 14° 39' 23.0"	11.948	24	15 57 58.66	2.0670	S. 22° 52' 13.6"	8.268

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	15 57 58.66	2.0670	S. 22° 52' 13.6"	8.968	0	17 42 41.97	2.2835	S. 27° 20' 16.4"	2.571
1	16 0 2.83	2.0730	23 0 26.7	8.170	1	17 44 59.08	2.2867	27 22 46.6	2.433
2	16 2 7.30	2.0769	23 8 34.0	8.072	2	17 47 16.38	2.2899	27 25 8.4	2.294
3	16 4 12.06	2.0818	23 16 35.3	7.972	3	17 49 33.87	2.2931	27 27 21.9	2.155
4	16 6 17.12	2.0869	23 24 30.6	7.872	4	17 51 51.55	2.2962	27 29 27.0	2.015
5	16 8 22.49	2.0920	23 32 19.9	7.770	5	17 54 9.41	2.2993	27 31 23.7	1.874
6	16 10 28.16	2.0970	23 40 3.0	7.667	6	17 56 27.45	2.3021	27 33 11.9	1.733
7	16 12 34.13	2.1019	23 47 39.9	7.564	7	17 58 45.66	2.3049	27 34 51.7	1.592
8	16 14 40.39	2.1068	23 55 10.6	7.460	8	18 1 4.03	2.3076	27 36 22.9	1.449
9	16 16 46.95	2.1118	24 2 35.1	7.355	9	18 3 22.57	2.3102	27 37 45.6	1.306
10	16 18 53.81	2.1168	24 9 53.2	7.248	10	18 5 41.26	2.3128	27 38 59.7	1.163
11	16 21 0.97	2.1218	24 17 4.9	7.141	11	18 8 0.10	2.3153	27 40 5.2	1.019
12	16 23 8.43	2.1268	24 24 10.1	7.033	12	18 10 19.09	2.3177	27 41 2.0	0.874
13	16 25 16.19	2.1317	24 31 8.8	6.924	13	18 12 38.22	2.3199	27 41 50.1	0.730
14	16 27 24.24	2.1367	24 38 1.0	6.815	14	18 14 57.48	2.3220	27 42 29.6	0.586
15	16 29 32.59	2.1416	24 44 46.6	6.704	15	18 17 16.86	2.3240	27 43 0.4	0.440
16	16 31 41.23	2.1465	24 51 25.5	6.592	16	18 19 36.36	2.3260	27 43 22.4	0.294
17	16 33 50.17	2.1514	24 57 57.7	6.480	17	18 21 55.98	2.3280	27 43 35.7	0.148
18	16 35 59.40	2.1562	25 4 23.1	6.367	18	18 24 15.72	2.3298	27 43 40.2	-0.009
19	16 38 8.92	2.1611	25 10 41.7	6.253	19	18 26 35.56	2.3315	27 43 35.9	+0.145
20	16 40 18.73	2.1659	25 16 53.4	6.138	20	18 28 55.50	2.3331	27 43 22.8	0.293
21	16 42 28.83	2.1707	25 22 58.2	6.022	21	18 31 15.53	2.3345	27 43 0.8	0.441
22	16 44 39.21	2.1754	25 28 56.0	5.904	22	18 33 35.64	2.3359	27 42 29.9	0.588
23	16 46 49.88	2.1802	S. 25° 34' 46.7"	5.786	23	18 35 55.84	2.3373	S. 27° 41' 50.2"	0.736
SATURDAY 14.					MONDAY 16.				
0	16 49 0.84	2.1850	S. 25° 40' 30.3"	5.667	0	18 38 16.11	2.3384	S. 27° 41' 1.6"	0.884
1	16 51 12.08	2.1897	25 46 6.7	5.547	1	18 40 36.45	2.3395	27 40 4.1	1.033
2	16 53 23.60	2.1943	25 51 36.0	5.427	2	18 42 56.85	2.3405	27 38 57.7	1.182
3	16 55 35.39	2.1988	25 56 58.0	5.306	3	18 45 17.31	2.3414	27 37 42.3	1.331
4	16 57 47.46	2.2034	26 2 12.7	5.184	4	18 47 37.82	2.3422	27 36 18.0	1.479
5	16 59 59.80	2.2079	26 7 20.0	5.061	5	18 49 58.37	2.3428	27 34 44.8	1.628
6	17 2 12.41	2.2124	26 12 20.0	4.937	6	18 52 18.96	2.3434	27 33 2.6	1.777
7	17 4 25.29	2.2168	26 17 12.5	4.812	7	18 54 39.58	2.3439	27 31 11.5	1.927
8	17 6 38.43	2.2212	26 21 57.4	4.686	8	18 57 0.23	2.3443	27 29 11.4	2.077
9	17 8 51.83	2.2255	26 26 34.8	4.560	9	18 59 20.90	2.3446	27 27 2.3	2.226
10	17 11 5.49	2.2298	26 31 4.6	4.432	10	19 1 41.58	2.3447	27 24 44.3	2.375
11	17 13 19.41	2.2341	26 35 26.7	4.304	11	19 4 2.27	2.3448	27 22 17.3	2.524
12	17 15 33.58	2.2383	26 39 41.1	4.176	12	19 6 22.96	2.3448	27 19 41.4	2.673
13	17 17 48.00	2.2423	26 43 47.8	4.047	13	19 8 43.64	2.3447	27 16 56.5	2.822
14	17 20 2.66	2.2464	26 47 46.7	3.916	14	19 11 4.32	2.3445	27 14 2.7	2.972
15	17 22 17.57	2.2505	26 51 37.7	3.784	15	19 13 24.98	2.3448	27 10 59.9	3.121
16	17 24 32.72	2.2544	26 55 20.8	3.652	16	19 15 45.62	2.3437	27 7 48.2	3.270
17	17 26 48.10	2.2582	26 58 56.0	3.520	17	19 18 6.23	2.3439	27 4 27.5	3.419
18	17 29 3.70	2.2619	27 2 23.2	3.387	18	19 20 26.80	2.3425	27 0 57.9	3.568
19	17 31 19.53	2.2657	27 5 42.4	3.252	19	19 22 47.33	2.3418	26 57 19.4	3.716
20	17 33 35.59	2.2695	27 8 53.5	3.117	20	19 25 7.82	2.3410	26 53 32.0	3.864
21	17 35 51.87	2.2731	27 11 56.5	2.982	21	19 27 28.25	2.3401	26 49 35.7	4.012
22	17 38 8.36	2.2766	27 14 51.4	2.846	22	19 29 48.63	2.3391	26 45 30.6	4.159
23	17 40 25.06	2.2801	27 17 38.0	2.708	23	19 32 8.95	2.3380	26 41 16.6	4.307
24	17 42 41.97	2.2835	S. 27° 20' 16.4"	2.571	24	19 34 29.19	2.3368	S. 26° 36' 53.7"	4.455

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	19 34 29.19	2.3368	S. 26 36' 53.7"	4.455	0	21 23 53.59	2.3093	S. 20 23' 46.6"	10.999
1	19 36 49.36	2.3355	26 32 22.0	4.609	1	21 26 5.61	2.1968	20 12 55.1	10.913
2	19 39 9.45	2.3342	26 27 41.5	4.748	2	21 28 17.42	2.1949	20 1 57.0	11.023
3	19 41 29.46	2.3327	26 22 52.2	4.894	3	21 30 29.00	2.1919	19 50 52.3	11.132
4	19 43 49.38	2.3312	26 17 54.2	5.040	4	21 32 40.36	2.1876	19 39 41.1	11.240
5	19 46 9.20	2.3296	26 12 47.4	5.186	5	21 34 51.51	2.1840	19 28 23.5	11.347
6	19 48 28.93	2.3279	26 7 31.9	5.331	6	21 37 2.44	2.1803	19 16 59.5	11.452
7	19 50 48.55	2.3260	26 2 7.7	5.475	7	21 39 13.15	2.1767	19 5 29.2	11.557
8	19 53 8.05	2.3241	25 56 34.9	5.619	8	21 41 23.64	2.1731	18 53 52.7	11.660
9	19 55 27.44	2.3222	25 50 53.4	5.763	9	21 43 33.92	2.1695	18 42 10.0	11.762
10	19 57 46.71	2.3201	25 45 3.3	5.908	10	21 45 43.98	2.1658	18 30 21.2	11.864
11	20 0 5.85	2.3180	25 39 4.7	6.049	11	21 47 53.82	2.1622	18 18 26.3	11.964
12	20 2 24.87	2.3158	25 32 57.5	6.191	12	21 50 3.44	2.1586	18 6 25.5	12.069
13	20 4 43.75	2.3135	25 26 41.8	6.332	13	21 52 12.85	2.1551	17 54 18.8	12.160
14	20 7 2.49	2.3119	25 20 17.6	6.473	14	21 54 22.05	2.1516	17 42 6.3	12.257
15	20 9 21.09	2.3098	25 13 45.0	6.613	15	21 56 31.04	2.1480	17 29 48.0	12.359
16	20 11 39.55	2.3083	25 7 4.0	6.753	16	21 58 39.81	2.1445	17 17 24.0	12.447
17	20 13 57.85	2.3068	25 0 14.7	6.899	17	22 0 48.38	2.1411	17 4 54.4	12.546
18	20 16 16.00	2.3042	24 53 17.0	7.031	18	22 2 56.74	2.1376	16 52 19.2	12.638
19	20 18 33.99	2.2995	24 46 11.0	7.168	19	22 5 4.89	2.1342	16 39 38.5	12.733
20	20 20 51.82	2.2957	24 38 56.8	7.305	20	22 7 12.84	2.1308	16 26 52.4	12.819
21	20 23 9.48	2.2929	24 31 34.4	7.441	21	22 9 20.59	2.1275	16 14 1.0	12.901
22	20 25 26.97	2.2901	24 24 3.9	7.577	22	22 11 28.14	2.1240	16 1 4.3	12.986
23	20 27 44.29	2.2872	S. 24 16 25.2	7.712	23	22 13 35.49	2.1208	S. 15 48 2.4	13.074
WEDNESDAY 18.					FRIDAY 20.				
0	20 30 1.44	2.2843	S. 24 8 38.4	7.846	0	22 15 42.64	2.1176	S. 15 34 55.4	13.159
1	20 32 18.41	2.2812	24 0 43.6	7.979	1	22 17 49.60	2.1144	15 21 43.3	13.243
2	20 34 35.19	2.2781	23 52 40.9	8.112	2	22 19 56.37	2.1112	15 8 26.2	13.326
3	20 36 51.78	2.2750	23 44 30.2	8.244	3	22 22 2.95	2.1081	14 55 4.2	13.407
4	20 39 8.19	2.2719	23 36 11.6	8.375	4	22 24 9.34	2.1049	14 41 37.3	13.487
5	20 41 24.41	2.2687	23 27 45.2	8.505	5	22 26 15.54	2.1018	14 28 5.7	13.566
6	20 43 40.43	2.2654	23 19 11.0	8.634	6	22 28 21.56	2.0986	14 14 29.4	13.644
7	20 45 56.26	2.2621	23 10 29.1	8.763	7	22 30 27.40	2.0955	14 0 48.4	13.722
8	20 48 11.89	2.2588	23 1 39.5	8.891	8	22 32 33.07	2.0923	13 47 2.8	13.797
9	20 50 27.32	2.2555	22 52 42.2	9.017	9	22 34 38.56	2.0891	13 33 12.8	13.870
10	20 52 42.55	2.2521	22 43 37.4	9.142	10	22 36 43.88	2.0872	13 19 18.4	13.943
11	20 54 57.57	2.2486	22 34 25.1	9.267	11	22 38 49.03	2.0845	13 5 19.6	14.016
12	20 57 12.38	2.2451	22 25 5.3	9.390	12	22 40 54.02	2.0818	12 51 16.5	14.087
13	20 59 26.98	2.2417	22 15 38.1	9.515	13	22 42 58.85	2.0792	12 37 9.2	14.156
14	21 1 41.38	2.2382	22 6 3.5	9.637	14	22 45 3.52	2.0765	12 22 57.8	14.223
15	21 3 55.57	2.2347	21 56 21.7	9.757	15	22 47 8.03	2.0739	12 8 42.4	14.290
16	21 6 9.55	2.2312	21 46 32.6	9.877	16	22 49 12.39	2.0714	11 54 23.0	14.357
17	21 8 23.31	2.2276	21 36 36.4	9.997	17	22 51 16.60	2.0689	11 39 59.6	14.422
18	21 10 36.86	2.2240	21 26 33.0	10.116	18	22 53 20.66	2.0665	11 25 32.4	14.486
19	21 12 50.19	2.2204	21 16 22.5	10.233	19	22 55 24.58	2.0642	11 11 1.4	14.547
20	21 15 3.31	2.2168	21 6 5.0	10.348	20	22 57 28.36	2.0619	10 56 26.7	14.607
21	21 17 16.21	2.2132	20 55 40.7	10.463	21	22 59 32.01	2.0597	10 41 48.5	14.667
22	21 19 28.89	2.2095	20 45 9.5	10.578	22	23 1 35.53	2.0576	10 27 6.7	14.726
23	21 21 41.35	2.2058	20 34 31.4	10.691	23	23 3 38.92	2.0554	10 12 21.4	14.783
24	21 23 53.59	2.2022	S. 20 23 46.6	10.803	24	23 5 42.18	2.0533	S. 9 57 32.8	14.839

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 21.					MONDAY 23.				
0	23 5 42.18	2.0533	S. 9 57 32.8	14.889	0	0 43 18.10	2.0436	N. 2 35 50.2	16.089
1	23 7 45.32	2.0513	9 42 40.8	14.894	1	0 45 20.77	2.0455	2 51 54.2	16.084
2	23 9 48.35	2.0495	9 27 45.5	14.947	2	0 47 23.56	2.0475	3 7 57.9	16.057
3	23 11 51.27	2.0477	9 12 47.1	14.999	3	0 49 26.47	2.0495	3 24 1.1	16.049
4	23 13 54.08	2.0460	8 57 45.6	15.051	4	0 51 29.50	2.0516	3 40 3.8	16.039
5	23 15 56.79	2.0443	8 42 41.0	15.101	5	0 53 32.66	2.0538	3 56 5.8	16.038
6	23 17 59.39	2.0425	8 27 33.5	15.149	6	0 55 35.95	2.0560	4 12 7.2	16.017
7	23 20 1.89	2.0410	8 12 23.1	15.197	7	0 57 39.38	2.0584	4 28 7.9	16.003
8	23 22 4.31	2.0396	7 57 9.9	15.243	8	0 59 42.96	2.0608	4 44 7.6	15.987
9	23 24 6.64	2.0380	7 41 53.9	15.288	9	1 1 46.68	2.0633	5 0 6.3	15.970
10	23 26 8.89	2.0366	7 26 35.3	15.332	10	1 3 50.56	2.0660	5 16 4.0	15.953
11	23 28 11.06	2.0355	7 11 14.1	15.375	11	1 5 54.60	2.0687	5 32 0.7	15.935
12	23 30 13.15	2.0343	6 55 50.3	15.417	12	1 7 58.81	2.0716	5 47 56.2	15.914
13	23 32 15.17	2.0333	6 40 24.1	15.456	13	1 10 3.19	2.0745	6 3 50.4	15.899
14	23 34 17.13	2.0321	6 24 55.0	15.495	14	1 12 7.75	2.0774	6 19 43.3	15.869
15	23 36 19.02	2.0311	6 9 24.7	15.533	15	1 14 12.48	2.0804	6 35 34.7	15.843
16	23 38 20.86	2.0302	5 53 51.6	15.569	16	1 16 17.40	2.0836	6 51 24.5	15.817
17	23 40 22.65	2.0293	5 38 16.4	15.604	17	1 18 22.51	2.0868	7 7 12.8	15.791
18	23 42 24.38	2.0285	5 22 39.1	15.638	18	1 20 27.82	2.0902	7 22 59.4	15.762
19	23 44 26.07	2.0279	5 6 59.8	15.671	19	1 22 33.33	2.0936	7 38 44.2	15.731
20	23 46 27.73	2.0273	4 51 18.6	15.702	20	1 24 39.05	2.0971	7 54 27.1	15.699
21	23 48 29.35	2.0268	4 35 35.6	15.732	21	1 26 44.98	2.1007	8 10 8.1	15.667
22	23 50 30.94	2.0263	4 19 50.8	15.761	22	1 28 51.13	2.1044	8 25 47.1	15.632
23	23 52 32.51	2.0259	S. 4 4 4.3	15.789	23	1 30 57.51	2.1082	N. 8 41 23.9	15.595
SUNDAY 22.					TUESDAY 24.				
0	23 54 34.05	2.0256	S. 3 48 16.1	15.816	0	1 33 4.11	2.1120	N. 8 56 58.5	15.557
1	23 56 35.58	2.0254	3 32 26.4	15.841	1	1 35 10.95	2.1160	9 12 30.8	15.518
2	23 58 37.10	2.0253	3 16 35.2	15.864	2	1 37 18.03	2.1199	9 28 0.7	15.478
3	0 0 38.62	2.0252	3 0 42.7	15.887	3	1 39 25.34	2.1239	9 43 28.2	15.437
4	0 2 40.13	2.0252	2 44 48.8	15.909	4	1 41 32.90	2.1282	9 58 53.1	15.393
5	0 4 41.65	2.0254	2 28 53.6	15.929	5	1 43 40.72	2.1325	10 14 15.3	15.348
6	0 6 43.18	2.0256	2 12 57.3	15.948	6	1 45 48.80	2.1368	10 29 34.8	15.302
7	0 8 44.72	2.0259	1 56 59.9	15.966	7	1 47 57.14	2.1412	10 44 51.5	15.253
8	0 10 46.29	2.0263	1 41 1.4	15.982	8	1 50 5.75	2.1457	11 0 5.2	15.203
9	0 12 47.88	2.0267	1 25 2.0	15.997	9	1 52 14.63	2.1503	11 15 15.9	15.153
10	0 14 49.50	2.0272	1 9 1.8	16.011	10	1 54 23.79	2.1550	11 30 23.5	15.101
11	0 16 51.15	2.0278	0 53 0.7	16.024	11	1 56 33.23	2.1597	11 45 28.0	15.047
12	0 18 52.84	2.0285	0 36 58.9	16.035	12	1 58 42.96	2.1646	12 0 29.1	14.990
13	0 20 54.57	2.0293	0 20 56.5	16.045	13	2 0 52.98	2.1695	12 15 26.8	14.933
14	0 22 56.36	2.0302	S. 0 4 53.5	16.054	14	2 3 3.30	2.1745	12 30 21.1	14.875
15	0 24 58.20	2.0312	N. 0 11 10.0	16.062	15	2 5 13.92	2.1795	12 45 11.8	14.814
16	0 27 0.10	2.0323	0 27 13.9	16.068	16	2 7 24.84	2.1847	12 59 58.8	14.752
17	0 29 2.07	2.0334	0 43 18.1	16.072	17	2 9 36.08	2.1899	13 14 42.0	14.688
18	0 31 4.11	2.0346	0 59 22.5	16.075	18	2 11 47.63	2.1952	13 29 21.4	14.623
19	0 33 6.22	2.0359	1 15 27.1	16.077	19	2 13 59.50	2.2005	13 43 56.8	14.557
20	0 35 8.42	2.0373	1 31 31.8	16.079	20	2 16 11.69	2.2059	13 58 28.2	14.488
21	0 37 10.70	2.0388	1 47 36.6	16.079	21	2 18 24.21	2.2114	14 12 55.4	14.418
22	0 39 13.07	2.0403	2 3 41.3	16.077	22	2 20 37.06	2.2170	14 27 18.4	14.347
23	0 41 15.54	2.0419	2 19 45.9	16.074	23	2 22 50.25	2.2226	14 41 37.0	14.273
24	0 43 18.10	2.0436	N. 2 35 50.2	16.069	24	2 25 3.78	2.2283	N. 14 55 51.2	14.198

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25.					FRIDAY 27.				
0	2 25 3.78	2.2283	N.14 55 51.2	14.198	0	4 19 23.21	2.5394	N.24 18 47.1	8.598
1	2 27 17.65	2.2341	15 10 0.8	14.192	1	4 21 55.76	2.5456	24 27 18.2	8.439
2	2 29 31.87	2.2399	15 24 5.8	14.044	2	4 24 28.68	2.5517	24 35 39.8	8.380
3	2 31 46.44	2.2458	15 38 6.1	13.964	3	4 27 1.97	2.5577	24 43 51.8	8.119
4	2 34 1.37	2.2518	15 52 1.5	13.888	4	4 29 35.61	2.5636	24 51 54.1	7.957
5	2 36 16.66	2.2578	16 5 52.0	13.799	5	4 32 9.60	2.5694	24 59 46.6	7.793
6	2 38 32.30	2.2638	16 19 37.4	13.714	6	4 34 43.94	2.5752	25 7 29.2	7.628
7	2 40 48.31	2.2699	16 33 17.7	13.628	7	4 37 18.62	2.5808	25 15 1.9	7.461
8	2 43 4.69	2.2761	16 46 52.8	13.540	8	4 39 53.64	2.5863	25 22 24.5	7.292
9	2 45 21.45	2.2824	17 0 22.5	13.450	9	4 42 28.98	2.5918	25 29 36.9	7.122
10	2 47 38.58	2.2886	17 13 46.8	13.358	10	4 45 4.65	2.5972	25 36 39.1	6.952
11	2 49 56.09	2.2949	17 27 5.5	13.264	11	4 47 40.64	2.6023	25 43 31.1	6.780
12	2 52 13.97	2.3013	17 40 18.5	13.169	12	4 50 16.93	2.6074	25 50 12.7	6.606
13	2 54 32.24	2.3078	17 53 25.8	13.072	13	4 52 53.53	2.6125	25 56 43.8	6.431
14	2 56 50.90	2.3142	18 6 27.2	12.974	14	4 55 30.43	2.6174	26 3 4.4	6.255
15	2 59 9.94	2.3206	18 19 22.7	12.874	15	4 58 7.62	2.6222	26 9 14.4	6.077
16	3 1 29.37	2.3272	18 32 12.1	12.773	16	5 0 45.10	2.6269	26 15 13.7	5.899
17	3 3 49.20	2.3338	18 44 55.3	12.668	17	5 3 22.85	2.6314	26 21 2.2	5.719
18	3 6 9.43	2.3404	18 57 32.3	12.563	18	5 6 0.87	2.6358	26 26 40.0	5.538
19	3 8 30.05	2.3470	19 10 2.9	12.456	19	5 8 39.15	2.6401	26 32 6.8	5.356
20	3 10 51.07	2.3537	19 22 27.0	12.347	20	5 11 17.68	2.6443	26 37 22.7	5.173
21	3 13 12.49	2.3603	19 34 44.5	12.236	21	5 13 56.46	2.6483	26 42 27.6	4.989
22	3 15 34.31	2.3670	19 46 55.3	12.123	22	5 16 35.47	2.6521	26 47 21.4	4.804
23	3 17 56.53	2.3737	N.19 58 59.3	12.010	23	5 19 14.71	2.6558	N.26 52 4.0	4.618
THURSDAY 26.					SATURDAY 28.				
0	3 20 19.16	2.3805	N.20 10 56.5	11.894	0	5 21 54.16	2.6593	N.26 56 35.5	4.432
1	3 22 42.19	2.3873	20 22 46.6	11.776	1	5 24 33.82	2.6627	27 0 55.8	4.243
2	3 25 5.63	2.3941	20 34 29.6	11.657	2	5 27 13.68	2.6659	27 5 4.7	4.054
3	3 27 29.48	2.4008	20 46 5.4	11.536	3	5 29 53.73	2.6690	27 9 2.3	3.865
4	3 29 53.73	2.4076	20 57 34.9	11.413	4	5 32 33.96	2.6719	27 12 48.5	3.675
5	3 32 18.39	2.4144	21 8 54.9	11.288	5	5 35 14.36	2.6747	27 16 23.3	3.484
6	3 34 43.46	2.4212	21 20 8.4	11.163	6	5 37 54.92	2.6773	27 19 46.6	3.293
7	3 37 8.93	2.4279	21 31 14.3	11.033	7	5 40 35.63	2.6797	27 22 58.4	3.101
8	3 39 34.81	2.4347	21 42 12.4	10.903	8	5 43 16.48	2.6818	27 25 58.7	2.908
9	3 42 1.10	2.4415	21 53 2.7	10.772	9	5 45 57.45	2.6838	27 28 47.4	2.715
10	3 44 27.79	2.4482	22 3 45.1	10.639	10	5 48 38.54	2.6858	27 31 24.5	2.521
11	3 46 54.89	2.4550	22 14 19.4	10.503	11	5 51 19.75	2.6876	27 33 49.9	2.327
12	3 49 22.39	2.4617	22 24 45.5	10.367	12	5 54 1.05	2.6891	27 36 3.7	2.132
13	3 51 50.29	2.4684	22 35 3.4	10.228	13	5 56 42.44	2.6904	27 38 5.8	1.937
14	3 54 18.59	2.4751	22 45 12.9	10.088	14	5 59 23.90	2.6916	27 39 56.2	1.742
15	3 56 47.30	2.4817	22 55 14.0	9.947	15	6 2 5.43	2.6926	27 41 34.8	1.546
16	3 59 16.40	2.4883	23 5 6.6	9.804	16	6 4 47.01	2.6933	27 43 1.7	1.350
17	4 1 45.90	2.4949	23 14 50.5	9.658	17	6 7 28.63	2.6940	27 44 16.8	1.153
18	4 4 15.79	2.5014	23 24 25.6	9.512	18	6 10 10.29	2.6945	27 45 20.1	0.957
19	4 6 46.07	2.5079	23 33 51.9	9.363	19	6 12 51.97	2.6947	27 46 11.6	0.761
20	4 9 16.74	2.5143	23 43 9.2	9.213	20	6 15 33.65	2.6947	27 46 51.4	0.565
21	4 11 47.79	2.5207	23 52 17.5	9.062	21	6 18 15.33	2.6946	27 47 19.4	0.368
22	4 14 19.22	2.5270	24 1 16.6	8.908	22	6 20 57.00	2.6949	27 47 35.6	+ 0.173
23	4 16 51.03	2.5332	24 10 6.5	8.754	23	6 23 38.64	2.6937	27 47 40.0	- 0.025
24	4 19 23.21	2.5394	N.24 18 47.1	8.598	24	6 26 20.24	2.6929	N.27 47 32.6	0.222

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 29.					TUESDAY 31.				
0	h m s	s	N. 27° 47' 32.6"	0.322	0	h m s	s	N. 24° 3' 45.7"	8.667
1	6 26 20.24	2.6929	27 47 13.4	0.418	1	8 31 32.93	2.4707	23 55 1.4	8.808
2	6 29 1.79	2.6921	27 46 42.5	0.613	2	8 34 0.95	2.4633	23 46 8.7	8.948
3	6 31 43.29	2.6911	27 45 59.9	0.808	3	8 36 28.52	2.4558	23 37 7.6	9.087
4	6 34 24.72	2.6898	27 45 5.5	1.004	4	8 38 55.65	2.4484	23 27 58.2	9.224
5	6 37 6.06	2.6883	27 43 59.4	1.198	5	8 41 22.33	2.4409	23 18 40.7	9.369
6	6 39 47.31	2.6867	27 42 41.7	1.393	6	8 43 48.56	2.4333	23 9 15.1	9.493
7	6 42 28.46	2.6848	27 41 12.3	1.587	7	8 46 14.33	2.4257	22 59 41.5	9.624
8	6 45 9.49	2.6828	27 39 31.3	1.780	8	8 48 39.64	2.4181	22 50 0.2	9.752
9	6 47 50.40	2.6807	27 37 38.7	1.973	9	8 51 4.50	2.4105	22 40 11.2	9.880
10	6 50 31.17	2.6783	27 35 34.5	2.166	10	8 53 28.90	2.4028	22 30 14.6	10.007
11	6 53 11.79	2.6757	27 33 18.8	2.357	11	8 55 52.83	2.3950	22 20 10.4	10.132
12	6 55 52.25	2.6729	27 30 51.6	2.548	12	8 58 16.30	2.3873	22 9 58.8	10.254
13	6 58 32.54	2.6700	27 28 13.0	2.738	13	9 0 39.31	2.3796	21 59 39.9	10.374
14	7 1 12.65	2.6671	27 25 23.0	2.928	14	9 3 1.85	2.3718	21 49 13.9	10.492
15	7 3 52.57	2.6639	27 22 21.6	3.118	15	9 5 23.92	2.3640	21 38 40.8	10.610
16	7 6 32.30	2.6604	27 19 8.9	3.306	16	9 7 45.53	2.3562	21 28 0.7	10.725
17	7 9 11.81	2.6567	27 15 44.9	3.492	17	9 10 6.67	2.3484	21 17 13.8	10.838
18	7 11 51.10	2.6529	27 12 9.8	3.678	18	9 12 27.34	2.3407	20 55 19.9	11.059
19	7 14 30.16	2.6490	27 8 23.5	3.864	19	9 14 47.55	2.3329	20 44 13.1	11.167
20	7 17 8.98	2.6449	27 0 17.8	4.048	20	9 17 7.29	2.3251	20 32 59.9	11.273
21	7 19 47.55	2.6407	26 55 58.5	4.230	21	9 19 26.56	2.3172	20 21 40.3	11.377
22	7 22 25.86	2.6363	26 51 28.3	4.412	22	9 21 45.36	2.3094		
23	7 25 3.90	2.6317		4.593	23	9 24 3.69	2.3017		
24	7 27 41.66	2.6269				9 26 21.56	2.2940		
MONDAY 30.					WEDNESDAY, FEBRUARY 1.				
0	7 30 19.13	2.6221	N. 26° 46' 47.3"	4.773	0	9 28 38.97	2.2863	N. 19° 58' 42.8"	11.580
1	7 32 56.31	2.6171	26 41 55.5	4.959					
2	7 35 33.18	2.6119	26 36 53.0	5.149					
3	7 38 9.74	2.6067	26 31 40.0	5.304					
4	7 40 45.98	2.6013	26 26 16.5	5.479					
5	7 43 21.90	2.5958	26 20 42.5	5.654					
6	7 45 57.48	2.5901	26 14 58.0	5.827					
7	7 48 32.71	2.5844	26 9 3.3	5.997					
8	7 51 7.60	2.5785	26 2 58.4	6.166					
9	7 53 42.13	2.5724	25 56 43.4	6.333					
10	7 56 16.29	2.5662	25 50 18.4	6.500					
11	7 58 50.08	2.5600	25 43 43.4	6.666					
12	8 1 23.49	2.5537	25 36 58.5	6.829					
13	8 3 56.52	2.5473	25 30 3.9	6.991					
14	8 6 29.16	2.5407	25 22 59.6	7.152					
15	8 9 1.40	2.5340	25 15 45.7	7.311					
16	8 11 33.24	2.5272	25 8 22.3	7.468					
17	8 14 4.67	2.5204	25 0 49.5	7.623					
18	8 16 35.69	2.5136	24 53 7.5	7.777					
19	8 19 6.30	2.5066	24 45 16.3	7.930					
20	8 21 36.48	2.4995	24 37 15.9	8.081					
21	8 24 6.24	2.4924	24 29 6.6	8.229					
22	8 26 35.57	2.4852	24 20 48.4	8.377					
23	8 29 4.47	2.4780	24 12 21.4	8.523					
24	8 31 32.93	2.4707	N. 24° 3' 45.7"	8.667					

PHASES OF THE MOON.

	d	h	m
○ Full Moon . . . Jan.	2	1	40.9
☾ Last Quarter	9	10	28.4
● New Moon	17	13	28.1
☽ First Quarter	24	18	26.8
○ Full Moon	31	14	10.9

	d	h
☾ Apogee	11	19.0
☾ Perigee	27	13.6

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Pegasi W.	93° 8' 6"	9467	94° 50' 5"	9474	96° 31' 55"	9482	98° 13' 34"	9491
	α Arietis W.	50 29 12	9217	52 17 14	9217	54 5 16	9218	55 53 17	9219
	Regulus E.	61 40 8	9196	59 49 48	9130	57 59 35	9136	56 9 31	9143
	SATURN E.	105 31 10	9190	103 40 42	9125	101 50 21	9130	100 0 7	9136
2	α Arietis W.	64 52 16	9243	66 39 40	9250	68 26 53	9258	70 13 54	9266
	Aldebaran W.	34 35 36	9298	36 21 38	9298	38 7 41	9298	39 53 43	9300
	Regulus E.	47 2 6	9187	45 13 19	9198	43 24 48	9209	41 36 34	9222
	SATURN E.	90 51 33	9174	89 2 26	9184	87 13 34	9194	85 24 57	9204
	Spica E.	101 2 15	9172	99 13 5	9180	97 24 8	9190	95 35 26	9201
3	α Arietis W.	79 5 25	9322	80 50 53	9334	82 36 3	9348	84 20 53	9362
	Aldebaran W.	48 42 23	9332	50 27 36	9342	52 12 34	9353	53 57 17	9364
	SATURN E.	76 26 3	9264	74 39 11	9278	72 52 39	9292	71 6 27	9307
	Spica E.	86 36 9	9269	84 49 13	9275	83 2 37	9289	81 16 22	9303
4	α Arietis W.	92 59 51	9438	94 42 32	9455	96 24 49	9472	98 6 42	9489
	Aldebaran W.	62 36 32	9429	64 19 25	9444	66 1 57	9459	67 44 8	9475
	SATURN E.	62 20 53	9382	60 36 53	9390	58 53 17	9415	57 10 4	9432
	Spica E.	72 30 29	9381	70 46 27	9397	69 2 48	9414	67 19 33	9431
5	Aldebaran W.	76 9 28	9556	77 49 24	9573	79 28 56	9590	81 8 5	9607
	Pollux W.	32 0 51	9516	33 41 42	9533	35 22 10	9550	37 2 14	9566
	SATURN E.	48 39 59	9517	46 59 10	9535	45 18 46	9553	43 38 47	9570
	Spica E.	58 49 22	9518	57 8 34	9535	55 28 10	9553	53 48 11	9572
	Antares E.	104 41 22	9511	103 0 24	9528	101 19 50	9545	99 39 40	9564
6	Aldebaran W.	89 17 58	9693	90 54 47	9710	92 31 13	9728	94 7 16	9745
	Pollux W.	45 16 43	9652	46 54 27	9669	48 31 48	9686	50 8 47	9703
	SATURN E.	35 24 48	9657	33 47 11	9675	32 9 57	9692	30 33 6	9709
	Spica E.	45 34 27	9681	43 56 55	9680	42 19 48	9698	40 43 5	9715
	Antares E.	91 24 54	9650	89 47 7	9668	88 9 44	9685	86 32 44	9701
	VENUS E.	100 53 31	9698	99 25 19	9717	97 57 30	9736	96 30 4	9753
7	Pollux W.	58 8 11	9783	59 43 1	9799	61 17 30	9814	62 51 40	9828
	Regulus W.	21 55 9	9859	23 28 20	9866	25 1 23	9873	26 34 16	9881
	Spica E.	32 45 21	9805	31 10 59	9821	29 36 59	9839	28 3 22	9857
	Antares E.	78 33 12	9782	76 58 21	9798	75 23 51	9814	73 49 41	9828
	VENUS E.	89 18 26	9845	87 53 10	9869	86 28 14	9879	85 3 38	9896
	SUN E.	117 21 53	9165	115 55 2	9182	114 28 31	9198	113 2 20	9214
8	Pollux W.	70 37 52	9897	72 10 15	9910	73 42 21	9922	75 14 12	9935
	Regulus W.	34 15 48	9931	35 47 28	9941	37 18 55	9950	38 50 10	9961
	Antares E.	66 3 20	9898	64 31 7	9910	62 59 1	9923	61 27 11	9935
	VENUS E.	78 5 20	9373	76 42 33	9388	75 20 3	9401	73 57 48	9415
	SUN E.	105 55 54	9388	104 31 28	9391	103 7 18	9394	101 43 23	9398
9	Pollux W.	82 49 51	9987	84 20 20	9996	85 50 38	9995	87 20 45	9994
	Regulus W.	46 23 22	9906	47 53 27	9915	49 23 21	9929	50 53 6	9939
	Antares E.	53 51 37	9988	52 21 9	9997	50 50 53	9996	49 20 48	9995
	VENUS E.	67 10 15	9476	65 49 24	9487	64 28 45	9497	63 8 18	9506
	SUN E.	94 47 24	9385	93 24 50	9395	92 2 28	9405	90 40 17	9414

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Pegasi W.	99° 55' 0"	2502	101° 36' 11"	2513	103° 17' 6"	2527	104° 57' 42"	2541
	α Arietis W.	57 41 16	2222	59 29 11	2226	61 17 0	2231	63 4 42	2236
	Regulus E.	54 19 38	2151	52 29 56	2159	50 40 26	2167	48 51 9	2176
	SATURN E.	98 10 3	2143	96 20 9	2149	94 30 25	2157	92 40 53	2165
2	α Arietis W.	72 0 43	2277	73 47 17	2287	75 33 36	2298	77 19 39	2309
	Aldebaran W.	41 39 42	2304	43 25 35	2309	45 11 21	2315	46 56 58	2324
	Regulus E.	39 48 39	2235	38 1 4	2249	36 13 49	2264	34 26 57	2280
	SATURN E.	83 36 36	2215	81 48 31	2227	80 0 44	2239	78 13 14	2251
	Spica E.	93 47 0	2212	91 58 50	2224	90 10 58	2236	88 23 24	2249
3	α Arietis W.	86 5 23	2376	87 49 33	2391	89 33 21	2406	91 16 47	2422
	Aldebaran W.	55 41 44	2375	57 25 54	2388	59 9 46	2401	60 53 19	2415
	SATURN E.	69 20 37	2321	67 35 8	2336	65 50 1	2351	64 5 16	2366
	Spica E.	79 30 27	2318	77 44 54	2333	75 59 43	2349	74 14 55	2364
4	α Arietis W.	99 48 11	2507	101 29 15	2524	103 9 55	2542	104 50 10	2561
	Aldebaran W.	69 25 57	2490	71 7 24	2507	72 48 28	2523	74 29 9	2539
	SATURN E.	55 27 15	2449	53 44 50	2466	52 2 49	2483	50 21 12	2500
	Spica E.	65 36 42	2446	63 54 15	2465	62 12 13	2482	60 30 35	2500
5	Aldebaran W.	82 46 50	2624	84 25 12	2641	86 3 11	2659	87 40 46	2676
	Pollux W.	38 41 55	2624	40 21 12	2601	42 0 6	2618	43 38 36	2635
	SATURN E.	41 59 11	2588	40 20 0	2605	38 41 12	2623	37 2 48	2640
	Spica E.	52 8 37	2590	50 29 28	2607	48 50 43	2626	47 12 23	2643
	Antares E.	97 59 55	2581	96 20 34	2599	94 41 37	2616	93 3 4	2633
6	Aldebaran W.	95 42 56	2729	97 18 14	2779	98 53 10	2795	100 27 44	2811
	Pollux W.	51 45 23	2719	53 21 37	2735	54 57 30	2752	56 33 1	2768
	SATURN E.	28 56 38	2725	27 20 32	2741	25 44 47	2758	24 9 24	2775
	Spica E.	39 6 45	2733	37 30 49	2750	35 55 16	2769	34 20 7	2786
	Antares E.	84 56 6	2718	83 19 50	2735	81 43 56	2750	80 8 23	2767
	VENUS E.	95 3 1	3173	93 36 20	3192	92 10 1	3209	90 44 3	3227
7	Pollux W.	64 25 31	2843	65 59 3	2857	67 32 17	2871	69 5 13	2884
	Regulus W.	28 6 59	2891	29 39 30	2900	31 11 49	2910	32 43 55	2920
	Spica E.	26 30 8	2876	24 57 18	2894	23 24 51	2912	21 52 48	2932
	Antares E.	72 15 50	2843	70 42 18	2857	69 9 4	2871	67 36 8	2884
	VENUS E.	83 39 22	3312	82 15 24	3328	80 51 45	3344	79 28 24	3358
	SUN E.	111 36 27	3220	110 10 53	3244	108 45 36	3259	107 20 37	3273
8	Pollux W.	76 45 47	2946	78 17 8	2956	79 48 16	2967	81 19 10	2977
	Regulus W.	40 21 12	2970	41 52 2	2980	43 22 40	2989	44 53 7	2998
	Antares E.	59 55 36	2946	58 24 16	2958	56 53 10	2968	55 22 17	2978
	VENUS E.	72 35 49	3429	71 14 5	3441	69 52 35	3454	68 31 19	3464
	SUN E.	100 19 44	3340	98 56 19	3352	97 33 8	3364	96 10 10	3374
9	Pollux W.	88 50 41	3091	90 20 28	3098	91 50 6	3105	93 19 35	3111
	Regulus W.	52 22 42	3037	53 52 9	3043	55 21 28	3050	56 50 39	3056
	Antares E.	47 50 54	3099	46 21 9	3103	44 51 34	3107	43 22 7	3113
	VENUS E.	61 48 1	3516	60 27 55	3525	59 7 58	3533	57 48 10	3541
	SUN E.	89 18 16	3422	87 56 24	3431	86 34 42	3438	85 13 8	3446

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10	Pollux	W.	94° 48' 57"	3047	96° 18' 11"	3059	97° 47' 19"	3057	99° 16' 21"	3062
	Regulus	W.	58 19 43	3060	59 48 41	3066	61 17 32	3070	62 46 18	3074
	Antares	E.	41 52 48	3050	40 23 37	3056	38 54 33	3060	37 25 35	3065
	VENUS	E.	56 28 31	3548	55 9 0	3555	53 49 36	3561	52 30 19	3566
	SUN	E.	83 51 43	3452	82 30 25	3457	81 9 13	3463	79 48 8	3468
11	Regulus	W.	70 9 6	3087	71 37 32	3089	73 5 55	3090	74 34 17	3090
	SATURN	W.	25 54 56	3082	27 23 28	3089	28 51 59	3084	30 20 28	3084
	VENUS	E.	45 55 19	3589	44 36 33	3592	43 17 50	3595	41 59 10	3597
	SUN	E.	73 3 52	3485	71 43 11	3487	70 22 32	3488	69 1 55	3489
12	Regulus	W.	81 56 13	3085	83 24 41	3083	84 53 11	3081	86 21 44	3078
	SATURN	W.	37 42 58	3079	39 11 33	3078	40 40 10	3075	42 8 50	3072
	Spica	W.	27 55 2	3101	29 23 10	3097	30 51 23	3092	32 19 42	3088
	VENUS	E.	35 26 22	3605	34 7 53	3606	32 49 25	3607	31 30 58	3609
	SUN	E.	62 18 56	3488	60 58 18	3486	59 37 38	3484	58 16 56	3481
13	SATURN	W.	49 33 17	3051	51 2 27	3046	52 31 43	3040	54 1 6	3034
	Spica	W.	39 42 47	3061	41 11 44	3055	42 40 49	3049	44 10 1	3043
	SUN	E.	51 32 34	3463	50 11 28	3459	48 50 18	3454	47 29 2	3449
14	SATURN	W.	61 30 0	3000	63 0 13	2993	64 30 35	2985	66 1 7	2976
	Spica	W.	51 38 12	3005	53 8 18	2997	54 38 34	2989	56 9 0	2981
	SUN	E.	40 41 14	3421	39 19 21	3415	37 57 22	3409	36 35 16	3404
15	SATURN	W.	73 36 26	2933	75 8 3	2924	76 39 52	2914	78 11 53	2905
	Spica	W.	63 43 50	2937	65 15 22	2927	66 47 6	2918	68 19 2	2909
	SUN	E.	29 43 14	3379	28 20 33	3376	26 57 49	3373	25 35 2	3373
19	SUN	W.	17 53 58	3138	19 21 21	3105	20 49 24	3077	22 18 2	3052
	MARS	E.	58 1 39	2847	56 28 12	2838	54 54 33	2828	53 20 42	2820
	JUPITER	E.	60 47 5	2682	59 9 34	2653	57 31 51	2644	55 53 56	2636
	α Arietis	E.	80 16 15	2684	78 39 14	2676	77 2 2	2668	75 24 39	2660
20	SUN	W.	29 47 43	2963	31 18 42	2950	32 49 58	2938	34 21 31	2924
	MARS	E.	45 28 38	2777	43 53 40	2769	42 18 32	2761	40 43 13	2753
	JUPITER	E.	47 41 33	2595	46 2 31	2588	44 23 19	2580	42 43 56	2572
	α Arietis	E.	67 15 19	2626	65 37 0	2621	63 58 33	2615	62 19 59	2610
21	SUN	W.	42 2 59	2869	43 35 57	2860	45 9 7	2851	46 42 29	2842
	JUPITER	E.	34 24 26	2535	32 44 2	2528	31 3 28	2522	29 22 45	2515
	α Arietis	E.	54 5 30	2590	52 26 21	2588	50 47 9	2585	49 7 54	2584
	Aldebaran	E.	84 19 3	2539	82 38 44	2533	80 58 16	2526	79 17 39	2520
22	SUN	W.	54 32 8	2800	56 6 36	2792	57 41 14	2785	59 16 2	2778
	Fomalhaut	W.	30 16 48	2352	31 41 56	2370	33 8 41	2369	34 36 52	2337
	α Arietis	E.	40 51 37	2592	39 12 31	2597	37 33 32	2604	35 54 42	2613
	Aldebaran	E.	70 52 29	2491	69 11 3	2486	67 29 30	2481	65 47 50	2477
23	SUN	W.	67 12 24	2742	68 48 8	2735	70 24 1	2729	72 0 3	2722
	Fomalhaut	W.	42 14 28	2815	43 48 37	2783	45 23 27	2753	46 58 56	2728
	Aldebaran	E.	57 18 0	2457	55 35 46	2454	53 53 28	2451	52 11 6	2450

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10	Pollux W.	100° 45' 17"	3065	102° 14' 9"	3069	103° 42' 56"	3072	105° 11' 40"	3075
	Regulus W.	64 14 59	3078	65 43 36	3081	67 12 9	3083	68 40 39	3086
	Antares E.	35 56 43	3070	34 27 57	3073	32 59 15	3078	31 30 38	3080
	VENUS E.	51 11 8	3572	49 52 3	3577	48 33 4	3581	47 14 9	3586
	SUN E.	78 27 8	3472	77 6 13	3476	75 45 22	3480	74 24 36	3482
11	Regulus W.	76 2 39	3080	77 31 1	3082	78 59 24	3088	80 27 48	3087
	SATURN W.	31 48 57	3084	33 17 26	3084	34 45 55	3088	36 14 26	3089
	VENUS E.	40 40 32	3589	39 21 57	3601	38 3 24	3602	36 44 52	3604
	SUN E.	67 41 19	3489	66 20 43	3490	65 0 8	3489	63 39 32	3489
12	Regulus W.	87 50 21	3074	89 19 2	3070	90 47 48	3066	92 16 39	3069
	SATURN W.	43 37 34	3089	45 6 22	3065	46 35 15	3060	48 4 13	3056
	Spica W.	33 48 6	3083	35 16 36	3078	36 45 13	3072	38 13 57	3067
	VENUS E.	30 12 33	3610	28 54 9	3610	27 35 46	3612	26 17 25	3614
	SUN E.	56 56 11	3479	55 35 23	3475	54 14 31	3471	52 53 35	3467
13	SATURN W.	55 30 37	3098	57 0 15	3091	58 30 2	3014	59 59 57	3008
	Spica W.	45 39 22	3035	47 8 51	3028	48 38 29	3021	50 8 16	3014
	SUN E.	46 7 41	3444	44 46 14	3438	43 24 40	3432	42 3 0	3427
14	SATURN W.	67 31 50	2968	69 2 43	2960	70 33 46	2951	72 5 0	2942
	Spica W.	57 39 36	2973	59 10 23	2964	60 41 21	2955	62 12 30	2946
	SUN E.	35 13 4	3399	33 50 46	3393	32 28 21	3387	31 5 50	3383
15	SATURN W.	79 44 6	2985	81 16 31	2985	82 49 9	2976	84 21 59	2966
	Spica W.	69 51 10	2989	71 23 30	2989	72 56 3	2979	74 28 49	2969
	SUN E.	24 12 15	3373	22 49 28	3377	21 26 45	3381	20 4 7	3386
19	SUN W.	23 47 10	3031	25 16 44	3011	26 46 43	2994	28 17 3	2978
	MARS E.	51 46 40	2811	50 12 26	2802	48 38 1	2794	47 3 25	2785
	JUPITER E.	54 15 50	2628	52 37 33	2619	50 59 4	2611	49 20 24	2603
	α Arietis E.	73 47 6	2653	72 9 23	2646	70 31 31	2639	68 53 29	2633
20	SUN W.	35 53 20	2912	37 25 24	2901	38 57 42	2890	40 30 14	2880
	MARS E.	39 7 44	2746	37 32 5	2738	35 56 16	2732	34 20 18	2724
	JUPITER E.	41 4 22	2564	39 24 38	2557	37 44 44	2550	36 4 40	2543
	α Arietis E.	60 41 17	2605	59 2 29	2600	57 23 34	2596	55 44 34	2593
21	SUN W.	48 16 3	2833	49 49 48	2825	51 23 44	2816	52 57 51	2808
	JUPITER E.	27 41 52	2508	26 0 50	2501	24 19 38	2494	22 38 17	2489
	α Arietis E.	47 28 37	2584	45 49 20	2584	44 10 3	2585	42 30 48	2588
	Aldebaran E.	77 36 54	2514	75 56 0	2508	74 14 58	2502	72 33 47	2497
22	SUN W.	60 50 59	2770	62 26 6	2763	64 1 23	2756	65 36 49	2749
	Fomalhaut W.	36 6 19	2981	37 36 55	2933	39 8 32	2929	40 41 5	2950
	α Arietis E.	34 16 5	2624	32 37 43	2640	30 59 42	2658	29 22 6	2681
	Aldebaran E.	64 6 4	2472	62 24 11	2468	60 42 13	2464	59 0 9	2460
23	SUN W.	73 36 13	2716	75 12 32	2709	76 49 0	2703	78 25 36	2697
	Fomalhaut W.	48 34 59	2703	50 11 35	2681	51 48 40	2680	53 26 13	2641
	Aldebaran E.	50 28 42	2448	48 46 15	2446	47 3 46	2445	45 21 16	2445

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24	SUN W.	80° 2' 20"	9690	81° 39' 13"	9685	83° 16' 13"	9679	84° 53' 21"	9674
	Fomalhaut W.	55 4 12	9694	56 42 35	9697	58 21 20	9592	60 0 26	9578
	α Pegasi W.	37 59 1	9385	39 21 35	9395	40 45 41	9399	42 11 12	9168
	Aldebaran E.	43 38 46	9446	41 56 17	9448	40 13 51	9451	38 31 29	9456
	Pollux E.	87 1 8	9346	85 16 16	9349	83 31 17	9336	81 46 10	9331
25	SUN W.	93 0 52	9546	94 38 44	9541	96 16 43	9537	97 54 48	9532
	Fomalhaut W.	68 20 23	9590	70 1 8	9510	71 42 7	9509	73 23 18	9493
	α Pegasi W.	49 35 48	9330	51 7 29	9395	52 39 54	9363	54 13 0	9334
	Pollux E.	72 58 44	9306	71 12 53	9309	69 26 56	9297	67 40 52	9293
26	SUN W.	106 6 47	9611	107 45 27	9607	109 24 12	9604	111 3 2	9601
	Fomalhaut W.	81 51 52	9460	83 34 1	9455	85 16 17	9451	86 58 39	9447
	α Pegasi W.	62 7 2	9790	63 43 15	9703	65 19 51	9657	66 56 48	9672
	JUPITER W.	34 22 28	9314	36 8 7	9311	37 53 51	9307	39 39 40	9304
	MARS W.	33 29 40	9482	35 11 19	9478	36 53 3	9474	38 34 53	9470
	Pollux E.	58 48 58	9279	57 2 18	9289	55 15 33	9266	53 28 43	9263
	Regulus E.	95 23 6	9281	93 36 38	9277	91 50 5	9274	90 3 27	9270
27	α Pegasi W.	75 5 52	9619	76 44 21	9612	78 23 0	9605	80 1 48	9600
	JUPITER W.	48 29 50	9291	50 16 3	9289	52 2 18	9288	53 48 35	9286
	MARS W.	47 5 15	9455	48 47 31	9453	50 29 51	9451	52 12 13	9449
	α Arietis W.	31 36 46	9470	33 18 42	9446	35 1 11	9437	36 44 7	9412
	Pollux E.	44 33 30	9280	42 46 17	9249	40 59 2	9247	39 11 45	9247
	Regulus E.	81 9 10	9258	79 22 8	9256	77 35 3	9254	75 47 56	9253
28	α Pegasi W.	88 17 12	9587	89 56 25	9588	91 35 37	9589	93 14 47	9591
	JUPITER W.	62 40 24	9284	64 26 47	9285	66 13 9	9285	67 59 30	9287
	MARS W.	60 44 30	9446	62 26 59	9446	64 9 28	9448	65 51 55	9448
	α Arietis W.	45 23 33	9359	47 8 7	9359	48 52 51	9347	50 37 42	9342
	Pollux E.	30 15 9	9247	28 27 51	9249	26 40 36	9251	24 53 24	9253
	Regulus E.	66 52 4	9251	65 4 53	9253	63 17 44	9253	61 30 36	9256
29	JUPITER W.	76 50 36	9298	78 36 38	9293	80 22 35	9296	82 8 26	9310
	MARS W.	74 23 38	9460	76 5 48	9463	77 47 53	9467	79 29 53	9479
	α Arietis W.	59 23 7	9334	61 8 17	9335	62 53 26	9336	64 38 33	9336
	Aldebaran W.	29 15 6	9442	30 57 41	9428	32 40 36	9416	34 23 48	9407
	Regulus E.	52 35 46	9270	50 49 2	9274	49 2 24	9279	47 15 53	9285
	SATURN E.	96 40 40	9247	94 53 23	9251	93 6 12	9255	91 19 6	9259
	Spica E.	106 36 47	9258	104 49 46	9269	103 2 50	9266	101 16 0	9269
30	MARS W.	87 58 7	9499	89 39 21	9507	91 20 25	9514	93 1 19	9521
	α Arietis W.	73 23 9	9357	75 7 46	9369	76 52 15	9368	78 36 36	9375
	Aldebaran W.	43 2 11	9389	44 46 2	9389	46 29 53	9391	48 13 41	9394
	Regulus E.	38 25 35	9290	36 40 4	9298	34 54 46	9298	33 9 42	9290
	SATURN E.	82 25 18	9285	80 38 57	9292	78 52 46	9299	77 6 45	9307
	Spica E.	92 23 28	9296	90 37 23	9309	88 51 27	9309	87 5 41	9317
31	α Arietis W.	87 15 42	9415	88 58 55	9425	90 41 54	9435	92 24 39	9445
	Aldebaran W.	56 51 17	9419	58 34 24	9427	60 17 20	9435	62 0 5	9444
	SATURN E.	68 19 33	9249	66 34 45	9258	64 50 10	9268	63 5 50	9279
	Spica E.	78 19 46	9260	76 35 14	9270	74 50 56	9280	73 6 52	9291

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24	SUN W.	86° 30' 36"	2668	88° 7' 59"	2663	89° 45' 29"	2657	91° 23' 7"	2652
	Fomalhaut W.	61 39 51	2564	63 19 35	2553	64 59 35	2541	66 39 51	2530
	α Pegasi W.	43 37 59	3110	45 5 56	3058	46 34 57	3011	48 4 56	2969
	Aldebaran E.	36 49 14	2462	35 7 7	2469	33 25 10	2478	31 43 26	2400
	Pollux E.	80 0 55	2326	78 15 33	2331	76 30 4	2316	74 44 28	2311
25	SUN W.	90° 33' 0"	2627	101 11 18	2623	102 49 42	2618	104 28 12	2615
	Fomalhaut W.	75 4 41	2485	76 46 15	2479	78 27 58	2472	80 9 51	2466
	α Pegasi W.	55 46 44	2907	57 21 3	2789	58 55 54	2760	60 31 14	2739
	Pollux E.	65 54 42	2288	64 8 25	2284	62 22 2	2280	60 35 33	2276
26	SUN W.	112 41 56	2598	114 20 54	2595	115 59 56	2593	117 39 1	2591
	Fomalhaut W.	88 41' 7	2443	90 23 40	2441	92 6 16	2439	93 48 55	2437
	α Pegasi W.	68 34 5	2659	70 11 40	2648	71 49 30	2637	73 27 35	2628
	JUPITER W.	41 25 34	2301	43 11 32	2298	44 57 34	2296	46 43 40	2293
	MARS W.	40 16 48	2467	41 58 48	2463	43 40 53	2460	45 23 2	2458
	Pollux E.	51 41 49	2260	49 54 50	2257	48 7 47	2254	46 20 40	2252
	Regulus E.	88 16 44	2268	86 29 57	2264	84 43 5	2262	82 56 9	2260
27	α Pegasi W.	81 40 43	2595	83 19 45	2592	84 58 51	2590	86 38 0	2588
	JUPITER W.	55 34 55	2285	57 21 16	2285	59 7 38	2284	60 54 1	2284
	MARS W.	53 54 38	2448	55 37 4	2447	57 19 32	2446	59 2 1	2446
	α Arietis W.	38 27 25	2328	40 11 3	2325	41 54 59	2325	43 39 10	2326
	Pollux E.	37 24 27	2246	35 37 8	2245	33 49 48	2245	32 2 28	2246
	Regulus E.	74 0 48	2252	72 13 38	2251	70 26 27	2251	68 39 15	2251
28	α Pegasi W.	94 53 54	2595	96 32 56	2592	98 11 53	2590	99 50 43	2581
	JUPITER W.	69 45 49	2229	71 32 5	2220	73 18 19	2223	75 4 22	2225
	MARS W.	67 34 21	2450	69 16 45	2452	70 59 6	2454	72 41 24	2457
	α Arietis W.	52 22 40	2339	54 7 43	2337	55 52 49	2335	57 37 57	2334
	Pollux E.	23 6 16	2257	21 19 13	2262	19 32 17	2266	17 45 28	2272
	Regulus E.	59 43 31	2258	57 56 29	2260	56 9 30	2263	54 22 36	2266
29	JUPITER W.	83 54 11	2315	85 39 49	2320	87 25 20	2326	89 10 42	2331
	MARS W.	81 11 46	2476	82 53 33	2482	84 35 12	2487	86 16 44	2493
	α Arietis W.	66 23 37	2340	68 8 38	2344	69 53 34	2347	71 38 25	2352
	Aldebaran W.	36 7 13	2399	37 50 49	2394	39 34 32	2391	41 18 20	2389
	Regulus E.	45 29 31	2290	43 43 17	2297	41 57 13	2303	40 11 18	2311
	SATURN E.	89 32 6	2263	87 45 12	2268	85 58 26	2274	84 11 48	2279
	Spica E.	99 29 15	2274	97 42 37	2279	95 56 6	2284	94 9 43	2289
30	MARS W.	94 42 3	2530	96 22 35	2538	98 2 55	2548	99 43 2	2556
	α Arietis W.	80 20 47	2382	82 4 48	2389	83 48 38	2398	85 32 16	2406
	Aldebaran W.	49 57 25	2397	51 41 4	2402	53 24 36	2407	55 8 1	2413
	Regulus E.	31 24 55	2362	29 40 25	2374	27 56 13	2389	26 12 22	2404
	SATURN E.	75 20 55	2314	73 35 16	2322	71 49 49	2331	70 4 35	2339
	Spica E.	85 20 6	2325	83 34 43	2333	81 49 31	2342	80 4 32	2350
31	α Arietis W.	94 7 9	2457	95 49 23	2468	97 31 21	2480	99 13 3	2492
	Aldebaran W.	63 42 37	2453	65 24 57	2462	67 7 3	2472	68 48 55	2482
	SATURN E.	61 21 45	2390	59 37 56	2401	57 54 22	2412	56 11 4	2424
	Spica E.	71 23 4	2402	69 39 32	2412	67 56 15	2424	66 13 15	2436

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	[°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
Wed.	1	21 1 34.10	10.166	S. 16° 56' 44.2"	+43.10	16 15.99	68.21	13 52.22	0.309
Thur.	2	21 5 37.67	10.132	16 39 21.0	43.83	16 15.84	68.09	13 59.21	0.275
Frid.	3	21 9 40.43	10.098	16 21 40.4	44.55	16 15.68	67.98	14 5.40	0.241
Sat.	4	21 13 42.38	10.064	16 3 42.8	+45.94	16 15.52	67.86	14 10.78	0.207
SUN.	5	21 17 43.52	10.031	15 45 28.7	45.92	16 15.35	67.75	14 15.35	0.174
Mon.	6	21 21 43.87	9.998	15 26 58.4	46.59	16 15.18	67.63	14 19.13	0.141
Tues.	7	21 25 43.43	9.965	15 8 12.3	+47.24	16 15.00	67.52	14 22.13	0.109
Wed.	8	21 29 42.21	9.933	14 49 10.8	47.88	16 14.81	67.41	14 24.35	0.076
Thur.	9	21 33 40.22	9.901	14 29 54.3	48.49	16 14.63	67.30	14 25.80	0.045
Frid.	10	21 37 37.46	9.870	14 10 23.2	+49.09	16 14.44	67.19	14 26.48	0.013
Sat.	11	21 41 33.95	9.838	13 50 37.9	49.68	16 14.24	67.08	14 26.41	0.019
SUN.	12	21 45 29.68	9.806	13 30 38.8	50.24	16 14.05	66.97	14 25.59	0.050
Mon.	13	21 49 24.66	9.776	13 10 26.5	+50.78	16 13.85	66.86	14 24.02	0.080
Tues.	14	21 53 18.92	9.746	12 50 1.2	51.31	16 13.64	66.76	14 21.73	0.110
Wed.	15	21 57 12.45	9.715	12 29 23.4	51.82	16 13.44	66.65	14 18.72	0.141
Thur.	16	22 1 5.24	9.685	12 8 33.7	+52.31	16 13.23	66.55	14 14.96	0.171
Frid.	17	22 4 57.34	9.656	11 47 32.3	52.79	16 13.03	66.45	14 10.51	0.200
Sat.	18	22 8 48.73	9.627	11 26 19.7	53.25	16 12.82	66.35	14 5.38	0.229
SUN.	19	22 12 39.42	9.598	11 4 56.5	+53.68	16 12.61	66.25	13 59.52	0.258
Mon.	20	22 16 29.43	9.570	10 43 23.0	54.10	16 12.39	66.16	13 52.99	0.286
Tues.	21	22 20 18.78	9.542	10 21 39.6	54.50	16 12.18	66.07	13 45.81	0.313
Wed.	22	22 24 7.47	9.515	9 59 46.8	+54.89	16 11.96	65.98	13 37.96	0.340
Thur.	23	22 27 55.52	9.489	9 37 45.1	55.25	16 11.74	65.89	13 29.49	0.366
Frid.	24	22 31 42.96	9.464	9 15 34.7	55.60	16 11.51	65.80	13 20.38	0.392
Sat.	25	22 35 29.77	9.438	8 53 16.2	+55.93	16 11.29	65.72	13 10.66	0.417
SUN.	26	22 39 16.01	9.414	8 30 50.0	56.25	16 11.06	65.64	13 0.38	0.440
Mon.	27	22 43 1.67	9.391	8 8 16.3	56.55	16 10.82	65.56	12 49.52	0.464
Tues.	28	22 46 46.79	9.369	7 45 35.7	56.83	16 10.59	65.48	12 38.12	0.486
Wed.	29	22 50 31.38	9.347	S. 7 22 48.5	+57.10	16 10.35	65.41	12 26.18	0.508

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sideral time.

The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s			^m ^s	^s	^h ^m ^s
Wed.	1	21 1 31.75	10.165	S. 16° 56' 54.2"	+43.09	13 52.15	0.309	20 47 39.60
Thur.	2	21 5 35.31	10.131	16 39 31.3	43.82	13 59.15	0.275	20 51 36.16
Frid.	3	21 9 38.06	10.098	16 21 51.0	44.54	14 5.34	0.241	20 55 32.72
Sat.	4	21 13 40.00	10.064	16 3 53.6	+45.24	14 10.73	0.208	20 59 29.27
SUN.	5	21 17 41.14	10.031	15 45 39.7	45.92	14 15.31	0.174	21 3 25.83
Mon.	6	21 21 41.48	9.998	15 27 9.6	46.58	14 19.10	0.141	21 7 22.38
Tues.	7	21 25 41.04	9.966	15 8 23.7	+47.24	14 22.10	0.109	21 11 18.94
Wed.	8	21 29 39.83	9.933	14 49 22.3	47.87	14 24.33	0.077	21 15 15.50
Thur.	9	21 33 37.84	9.901	14 30 6.0	48.49	14 25.79	0.045	21 19 12.05
Frid.	10	21 37 35.09	9.870	14 10 35.1	+49.09	14 26.48	0.013	21 23 8.61
Sat.	11	21 41 31.58	9.838	13 50 49.9	49.67	14 26.42	0.018	21 27 5.16
SUN.	12	21 45 27.32	9.807	13 30 51.0	50.23	14 25.60	0.050	21 31 1.72
Mon.	13	21 49 22.32	9.776	13 10 38.7	+50.78	14 24.04	0.080	21 34 58.28
Tues.	14	21 53 16.59	9.746	12 50 13.6	51.31	14 21.76	0.110	21 38 54.83
Wed.	15	21 57 10.13	9.716	12 29 35.9	51.82	14 18.75	0.141	21 42 51.38
Thur.	16	22 1 2.94	9.686	12 8 46.2	+52.31	14 15.00	0.171	21 46 47.94
Frid.	17	22 4 55.06	9.657	11 47 44.8	52.79	14 10.56	0.200	21 50 44.50
Sat.	18	22 8 46.47	9.628	11 26 32.3	53.24	14 5.42	0.229	21 54 41.05
SUN.	19	22 12 37.18	9.599	11 5 9.1	+53.68	13 59.58	0.258	21 58 37.60
Mon.	20	22 16 27.22	9.571	10 43 35.6	54.10	13 53.06	0.285	22 2 34.16
Tues.	21	22 20 16.59	9.544	10 21 52.2	54.50	13 45.88	0.313	22 6 30.71
Wed.	22	22 24 5.31	9.517	9 59 59.4	+54.89	13 38.04	0.340	22 10 27.27
Thur.	23	22 27 53.39	9.490	9 37 57.6	55.25	13 29.57	0.366	22 14 23.82
Frid.	24	22 31 40.85	9.465	9 15 47.2	55.60	13 20.47	0.392	22 18 20.38
Sat.	25	22 35 27.70	9.440	8 53 28.6	+55.94	13 10.77	0.416	22 22 16.93
SUN.	26	22 39 13.97	9.416	8 31 2.2	56.25	13 0.48	0.441	22 26 13.49
Mon.	27	22 42 59.66	9.393	8 8 28.5	56.55	12 49.62	0.464	22 30 10.04
Tues.	28	22 46 44.82	9.370	7 45 47.8	56.84	12 38.22	0.486	22 34 6.60
Wed.	29	22 50 29.44	9.349	S. 7 23 0.4	+57.10	12 26.29	0.506	22 38 3.15

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing.

Diff. for 1 hour,
+8".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	32	312° 55' 9.3"	55' 12.8"	152.09	+ 0.48	9.9937277	+27.9	^h 3 ^m 11 ^s 48.89
2	33	313 55 58.8	56 2.2	152.04	0.43	9.9937958	28.9	3 7 52.98
3	34	314 56 47.3	56 50.5	152.00	0.37	9.9938664	29.9	3 3 57.06
4	35	315 57 34.8	57 37.9	151.96	+ 0.29	9.9939394	+30.9	3 0 1.16
5	36	316 58 21.3	58 24.2	151.92	0.18	9.9940147	31.8	2 56 5.24
6	37	317 59 6.8	59 9.6	151.87	+ 0.06	9.9940922	32.7	2 52 9.34
7	38	318 59 51.2	59 53.8	151.83	— 0.07	9.9941718	+33.6	2 48 13.42
8	39	320 0 34.5	0 37.0	151.78	0.20	9.9942534	34.4	2 44 17.51
9	40	321 1 16.8	1 19.2	151.74	0.32	9.9943367	35.0	2 40 21.61
10	41	322 1 58.0	2 0.2	151.69	— 0.43	9.9944216	+35.7	2 36 25.69
11	42	323 2 38.1	2 40.2	151.65	0.52	9.9945079	36.3	2 32 29.79
12	43	324 3 17.1	3 19.0	151.60	0.59	9.9945956	36.8	2 28 33.89
13	44	325 3 54.9	3 56.7	151.55	— 0.63	9.9946845	+37.3	2 24 37.96
14	45	326 4 31.4	4 33.1	151.49	0.64	9.9947745	37.7	2 20 42.66
15	46	327 5 6.4	5 7.9	151.43	0.61	9.9948655	38.1	2 16 46.15
16	47	328 5 39.9	5 41.3	151.36	— 0.56	9.9949574	+38.5	2 12 50.24
17	48	329 6 11.9	6 13.2	151.30	0.49	9.9950501	38.8	2 8 54.32
18	49	330 6 42.3	6 43.4	151.23	0.39	9.9951437	39.3	2 4 58.42
19	50	331 7 10.9	7 11.9	151.15	— 0.27	9.9952382	+39.6	2 1 2.52
20	51	332 7 37.7	7 38.6	151.08	— 0.14	9.9953337	40.0	1 57 6.60
21	52	333 8 2.5	8 3.3	150.99	0.00	9.9954302	40.4	1 53 10.70
22	53	334 8 25.4	8 26.0	150.91	+ 0.13	9.9955277	+40.9	1 49 14.78
23	54	335 8 46.3	8 46.8	150.83	0.25	9.9956263	41.4	1 45 18.88
24	55	336 9 5.3	9 5.7	150.75	0.35	9.9957262	41.9	1 41 22.97
25	56	337 9 22.3	9 22.6	150.67	+ 0.43	9.9958275	+42.5	1 37 27.06
26	57	338 9 37.3	9 37.4	150.58	0.49	9.9959304	43.2	1 33 31.15
27	58	339 9 50.2	9 50.2	150.50	0.52	9.9960348	43.8	1 29 35.23
28	59	340 10 1.2	10 1.1	150.42	0.51	9.9961407	44.5	1 25 39.33
29	60	341 10 10.2	10 10.0	150.34	+ 0.48	9.9962482	+45.1	1 21 43.42
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 ^h .0.								
								Diff. for 1 Hour, — 9 ^m .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	15' 51.0	15' 45.7	58' 3.8	-1.58	57' 44.2	-1.68	13 8.2	2.10	14.4
2	15 40.1	15 34.3	57 23.6	1.74	57 2.4	1.78	13 56.3	1.92	15.4
3	15 28.5	15 22.8	56 41.0	1.77	56 19.9	1.73	14 40.8	1.80	16.4
4	15 17.2	15 11.9	55 59.4	-1.67	55 39.9	-1.57	15 22.9	1.72	17.4
5	15 6.9	15 2.5	55 21.8	1.43	55 5.5	1.28	16 3.9	1.70	18.4
6	14 58.6	14 55.2	54 51.0	1.12	54 38.7	0.93	16 45.0	1.72	19.4
7	14 52.5	14 50.5	54 28.8	-0.73	54 21.3	-0.51	17 27.1	1.79	20.4
8	14 49.2	14 48.5	54 16.5	-0.30	54 14.2	-0.08	18 11.3	1.90	21.4
9	14 48.7	14 49.5	54 14.7	+0.15	54 17.7	+0.36	18 58.2	2.02	22.4
10	14 51.0	14 53.2	54 23.4	+0.57	54 31.4	+0.77	19 48.1	2.14	23.4
11	14 56.1	14 59.5	54 41.9	0.96	54 54.5	1.13	20 40.5	2.23	24.4
12	15 3.5	15 7.8	55 9.0	1.27	55 25.1	1.40	21 34.5	2.26	25.4
13	15 12.6	15 17.7	55 42.7	+1.51	56 1.3	+1.58	22 28.5	2.24	26.4
14	15 23.0	15 28.3	56 20.7	1.63	56 40.4	1.65	23 21.5	2.17	27.4
15	15 33.7	15 39.0	57 0.2	1.63	57 19.5	1.58	6		28.4
16	15 44.1	15 48.9	57 36.2	+1.51	57 55.8	+1.42	0 12.5	2.09	29.4
17	15 53.3	15 57.3	58 12.2	1.30	58 26.9	1.15	1 1.6	2.01	0.8
18	16 0.9	16 3.9	58 39.9	1.01	58 51.1	0.85	1 49.4	1.97	1.8
19	16 6.4	16 8.4	59 0.3	+0.68	59 7.5	+0.52	2 36.7	1.98	2.8
20	16 9.9	16 10.8	59 12.9	0.38	59 16.5	+0.23	3 24.8	2.04	3.8
21	16 11.4	16 11.5	59 18.5	+0.10	59 18.8	-0.03	4 15.0	2.15	4.8
22	16 11.2	16 10.6	59 17.8	-0.14	59 15.5	-0.24	5 8.3	2.29	5.8
23	16 9.6	16 8.4	59 12.0	0.34	59 7.4	0.43	6 5.2	2.45	6.8
24	16 6.8	16 5.1	59 1.8	0.50	58 55.3	0.58	7 5.3	2.55	7.8
25	16 3.0	16 0.7	58 47.8	-0.66	58 39.4	-0.74	8 7.0	2.56	8.8
26	15 58.2	15 55.4	58 30.0	0.83	58 19.6	0.90	9 7.7	2.48	9.8
27	15 52.3	15 48.9	58 8.3	0.98	57 56.0	1.07	10 5.3	2.32	10.8
28	15 45.3	15 41.4	57 42.7	1.15	57 28.5	1.21	10 58.7	2.13	11.8
29	15 37.4	15 33.1	57 13.6	-1.27	56 58.0	-1.32	11 47.8	1.96	12.8

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	9 28 38.97	2.2863	N. 19° 58' 42.8"	11.580	0	11 10 16.98	1.9714	N. 9° 19' 24.7"	14.458
1	9 30 55.92	2.2786	19 47 5.0	11.679	1	11 12 15.12	1.9666	9 4 56.5	14.489
2	9 33 12.40	2.2709	19 35 21.3	11.776	2	11 14 12.97	1.9618	8 50 26.9	14.504
3	9 35 28.42	2.2632	19 23 31.9	11.871	3	11 16 10.53	1.9570	8 35 56.0	14.526
4	9 37 43.98	2.2555	19 11 36.8	11.964	4	11 18 7.81	1.9523	8 21 23.8	14.547
5	9 39 59.08	2.2479	18 59 36.2	12.055	5	11 20 4.81	1.9477	8 6 50.4	14.567
6	9 42 13.73	2.2403	18 47 30.2	12.145	6	11 22 1.54	1.9432	7 52 15.8	14.585
7	9 44 27.92	2.2326	18 35 18.8	12.233	7	11 23 58.00	1.9388	7 37 40.2	14.608
8	9 46 41.66	2.2253	18 23 2.2	12.319	8	11 25 54.20	1.9345	7 23 3.6	14.617
9	9 48 54.96	2.2179	18 10 40.5	12.404	9	11 27 50.14	1.9302	7 8 26.1	14.633
10	9 51 7.81	2.2104	17 58 13.7	12.487	10	11 29 45.83	1.9261	6 53 47.7	14.646
11	9 53 20.21	2.2030	17 45 42.1	12.567	11	11 31 41.27	1.9220	6 39 8.6	14.657
12	9 55 32.17	2.1956	17 33 5.7	12.646	12	11 33 36.47	1.9180	6 24 28.8	14.668
13	9 57 43.69	2.1883	17 20 24.6	12.724	13	11 35 31.43	1.9141	6 9 48.4	14.679
14	9 59 54.77	2.1811	17 7 38.8	12.801	14	11 37 26.16	1.9102	5 55 7.3	14.689
15	10 2 5.42	2.1739	16 54 48.5	12.875	15	11 39 20.65	1.9063	5 40 25.7	14.697
16	10 4 15.64	2.1667	16 41 53.8	12.947	16	11 41 14.92	1.9027	5 25 43.7	14.704
17	10 6 25.43	2.1597	16 28 54.8	13.018	17	11 43 8.97	1.8991	5 11 1.3	14.710
18	10 8 34.80	2.1527	16 15 51.6	13.087	18	11 45 2.81	1.8956	4 56 18.5	14.715
19	10 10 43.75	2.1457	16 2 44.3	13.155	19	11 46 56.44	1.8921	4 41 35.5	14.718
20	10 12 52.28	2.1387	15 49 33.0	13.221	20	11 48 49.86	1.8887	4 26 52.3	14.721
21	10 15 0.39	2.1318	15 36 17.8	13.285	21	11 50 43.08	1.8854	4 12 9.0	14.723
22	10 17 8.09	2.1249	15 22 58.8	13.348	22	11 52 36.11	1.8822	3 57 25.6	14.724
23	10 19 15.38	2.1180	N. 15° 9' 36.0"	13.410	23	11 54 28.95	1.8791	N. 3° 42' 42.1"	14.724
THURSDAY 2.					SATURDAY 4.				
0	10 21 22.27	2.1115	N. 14° 56' 9.6"	13.469	0	11 56 21.60	1.8760	N. 3° 27' 58.7"	14.723
1	10 23 28.76	2.1048	14 42 39.7	13.537	1	11 58 14.07	1.8731	3 13 15.4	14.721
2	10 25 34.85	2.0982	14 29 6.4	13.583	2	12 0 6.37	1.8702	2 58 32.2	14.717
3	10 27 40.55	2.0917	14 15 29.7	13.638	3	12 1 58.49	1.8673	2 43 49.3	14.712
4	10 29 45.86	2.0853	14 1 49.8	13.692	4	12 3 50.45	1.8647	2 29 6.7	14.707
5	10 31 50.79	2.0790	13 48 6.7	13.743	5	12 5 42.25	1.8620	2 14 24.4	14.702
6	10 33 55.34	2.0737	13 34 20.6	13.793	6	12 7 33.89	1.8594	1 59 42.4	14.696
7	10 35 59.51	2.0684	13 20 31.5	13.842	7	12 9 25.38	1.8569	1 45 0.9	14.688
8	10 38 3.31	2.0632	13 6 39.5	13.890	8	12 11 16.72	1.8545	1 30 19.9	14.678
9	10 40 6.74	2.0582	12 52 44.7	13.936	9	12 13 7.92	1.8522	1 15 39.5	14.668
10	10 42 9.81	2.0532	12 38 47.2	13.980	10	12 14 58.99	1.8500	1 0 59.7	14.658
11	10 44 12.52	2.0482	12 24 47.1	14.023	11	12 16 49.92	1.8478	0 46 20.5	14.648
12	10 46 14.87	2.0432	12 10 44.4	14.065	12	12 18 40.72	1.8457	0 31 41.9	14.637
13	10 48 16.87	2.0384	11 56 39.3	14.105	13	12 20 31.40	1.8437	0 17 4.1	14.623
14	10 50 18.52	2.0347	11 42 31.8	14.144	14	12 22 21.96	1.8417	N. 0° 2' 27.2"	14.608
15	10 52 19.83	2.0311	11 28 22.0	14.182	15	12 24 12.41	1.8399	S. 0 12 8.8	14.593
16	10 54 20.81	2.0283	11 14 10.0	14.217	16	12 26 2.75	1.8382	0 26 43.9	14.578
17	10 56 21.45	2.0259	10 59 55.9	14.252	17	12 27 52.99	1.8364	0 41 18.1	14.562
18	10 58 21.76	2.0235	10 45 39.8	14.285	18	12 29 43.12	1.8347	0 55 51.3	14.544
19	11 0 21.75	1.9971	10 31 21.7	14.317	19	12 31 33.16	1.8332	1 10 23.4	14.526
20	11 2 21.42	1.9918	10 17 1.7	14.347	20	12 33 23.11	1.8318	1 24 54.4	14.507
21	11 4 20.77	1.9866	10 2 40.0	14.376	21	12 35 12.98	1.8305	1 39 24.2	14.487
22	11 6 19.81	1.9815	9 48 16.6	14.404	22	12 37 2.77	1.8292	1 53 52.8	14.468
23	11 8 18.55	1.9764	9 33 51.5	14.432	23	12 38 52.48	1.8279	2 8 20.1	14.448
24	11 10 16.98	1.9714	N. 9° 19' 24.7"	14.458	24	12 40 42.11	1.8267	S. 2° 22' 46.2"	14.423

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	12 40 42.11	1.8987	S. 2° 22' 46.2"	14.493	0	14 8 28.22	1.8574	S. 13° 15' 36.3"	19.510
1	12 42 31.68	1.8987	2 37 10.9	14.400	1	14 10 19.73	1.8597	13 28 5.2	19.453
2	12 44 21.19	1.8947	2 51 34.2	14.376	2	14 12 11.38	1.8691	13 40 30.6	19.395
3	12 46 10.64	1.8937	3 5 56.0	14.351	3	14 14 3.18	1.8646	13 52 52.6	19.337
4	12 48 0.04	1.8939	3 20 16.3	14.396	4	14 15 55.13	1.8670	14 5 11.1	19.978
5	12 49 49.39	1.8939	3 34 35.1	14.301	5	14 17 47.23	1.8695	14 17 26.0	19.919
6	12 51 38.70	1.8915	3 48 52.4	14.374	6	14 19 39.48	1.8791	14 29 37.4	19.159
7	12 53 27.97	1.8908	4 3 8.0	14.946	7	14 21 31.89	1.8748	14 41 45.1	19.098
8	12 55 17.20	1.8909	4 17 21.9	14.918	8	14 23 24.46	1.8776	14 53 49.1	19.037
9	12 57 6.40	1.8198	4 31 34.1	14.189	9	14 25 17.20	1.8804	15 5 49.5	11.975
10	12 58 55.58	1.8195	4 45 44.6	14.159	10	14 27 10.11	1.8639	15 17 46.1	11.911
11	13 0 44.74	1.8199	4 59 53.2	14.198	11	14 29 3.19	1.8661	15 29 38.8	11.847
12	13 2 33.88	1.8189	5 14 0.0	14.097	12	14 30 56.44	1.8690	15 41 27.7	11.789
13	13 4 23.01	1.8187	5 28 4.9	14.065	13	14 32 49.87	1.8691	15 53 12.7	11.717
14	13 6 12.13	1.8187	5 42 7.8	14.033	14	14 34 43.49	1.8659	16 4 53.8	11.659
15	13 8 1.25	1.8187	5 56 8.8	14.000	15	14 36 37.29	1.8683	16 16 30.9	11.585
16	13 9 50.37	1.8187	6 10 7.8	13.966	16	14 38 31.28	1.9014	16 28 4.0	11.518
17	13 11 39.50	1.8188	6 24 4.7	13.930	17	14 40 25.46	1.9047	16 39 33.0	11.450
18	13 13 28.63	1.8189	6 37 59.4	13.894	18	14 42 19.84	1.9080	16 50 58.0	11.389
19	13 15 17.77	1.8199	6 51 52.0	13.858	19	14 44 14.42	1.9113	17 2 18.8	11.319
20	13 17 6.94	1.8196	7 5 42.4	13.823	20	14 46 9.20	1.9147	17 13 35.4	11.249
21	13 18 56.13	1.8901	7 19 30.6	13.784	21	14 48 4.18	1.9181	17 24 47.8	11.171
22	13 20 45.35	1.8906	7 33 16.5	13.746	22	14 49 59.37	1.9216	17 35 55.9	11.098
23	13 22 34.60	1.9211	S. 7 47 0.1	13.707	23	14 51 54.77	1.9259	S. 17 46 59.6	11.096
MONDAY 6.					WEDNESDAY 8.				
0	13 24 23.88	1.8917	S. 8 0 41.4	13.668	0	14 53 50.39	1.9988	S. 17 57 59.0	10.953
1	13 26 13.20	1.8924	8 14 20.3	13.637	1	14 55 46.22	1.9994	18 8 54.0	10.879
2	13 28 2.57	1.8939	8 27 56.7	13.596	2	14 57 42.27	1.9961	18 19 44.5	10.804
3	13 29 51.99	1.8941	8 41 30.6	13.544	3	14 59 38.55	1.9908	18 30 30.5	10.736
4	13 31 41.46	1.8950	8 55 2.0	13.509	4	15 1 35.05	1.9436	18 41 11.9	10.653
5	13 33 30.99	1.8959	9 8 30.8	13.458	5	15 3 31.78	1.9473	18 51 48.8	10.577
6	13 35 20.57	1.8969	9 21 57.0	13.414	6	15 5 28.73	1.9519	19 2 21.1	10.499
7	13 37 10.22	1.8981	9 35 20.5	13.370	7	15 7 25.92	1.9559	19 12 48.7	10.420
8	13 38 59.94	1.8993	9 48 41.4	13.396	8	15 9 23.35	1.9591	19 23 11.5	10.340
9	13 40 49.74	1.8996	10 1 59.6	13.360	9	15 11 21.01	1.9630	19 33 29.5	10.260
10	13 42 39.61	1.8919	10 15 15.0	13.323	10	15 13 18.91	1.9671	19 43 42.7	10.180
11	13 44 29.57	1.8933	10 28 27.5	13.185	11	15 15 17.06	1.9719	19 53 51.1	10.099
12	13 46 19.61	1.8947	10 41 37.2	13.137	12	15 17 15.45	1.9753	20 3 54.6	10.017
13	13 48 9.74	1.8969	10 54 44.0	13.089	13	15 19 14.09	1.9794	20 13 53.1	9.933
14	13 49 59.96	1.8976	11 7 47.9	13.040	14	15 21 12.98	1.9836	20 23 46.6	9.849
15	13 51 50.28	1.8995	11 20 48.8	12.990	15	15 23 12.12	1.9878	20 33 35.0	9.764
16	13 53 40.70	1.9013	11 33 46.7	12.939	16	15 25 11.51	1.9920	20 43 18.3	9.678
17	13 55 31.23	1.9031	11 46 41.5	12.889	17	15 27 11.16	1.9963	20 52 56.4	9.599
18	13 57 21.87	1.9049	11 59 33.3	12.837	18	15 29 11.07	2.0007	21 2 29.4	9.506
19	13 59 12.62	1.9068	12 12 21.9	12.784	19	15 31 11.24	2.0050	21 11 57.1	9.418
20	14 1 3.49	1.9088	12 25 7.3	12.730	20	15 33 11.67	2.0093	21 21 19.5	9.329
21	14 2 54.48	1.9106	12 37 49.5	12.676	21	15 35 12.36	2.0137	21 30 36.6	9.240
22	14 4 45.59	1.9130	12 50 28.4	12.621	22	15 37 13.32	2.0189	21 39 48.3	9.149
23	14 6 36.84	1.9159	13 3 4.0	12.566	23	15 39 14.55	2.0237	21 48 54.5	9.058
24	14 8 28.22	1.9174	S. 13 15 36.3	12.510	24	15 41 16.04	2.0271	S. 21 57 55.2	8.966

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	15 41 16.04	2.9271	S. 21° 57' 55.2"	8.396	0	17 23 52.03	2.9431	S. 27° 6' 34.7"	2.577
1	15 43 17.80	2.9316	22 6 50.4	8.373	1	17 26 6.73	2.9469	27 10 5.4	2.446
2	15 45 19.83	2.9368	22 15 40.0	8.780	2	17 28 21.66	2.9507	27 13 28.2	3.314
3	15 47 22.14	2.9407	22 24 24.0	8.686	3	17 30 36.82	2.9545	27 16 43.1	3.181
4	15 49 24.72	2.9458	22 33 2.3	8.590	4	17 32 52.20	2.9588	27 19 50.0	3.047
5	15 51 27.57	2.9496	22 41 34.8	8.494	5	17 35 7.50	2.9618	27 22 48.8	2.912
6	15 53 30.70	2.9545	22 50 1.6	8.398	6	17 37 23.62	2.9654	27 25 39.4	2.776
7	15 55 34.11	2.9591	22 58 22.6	8.300	7	17 39 39.65	2.9688	27 28 21.9	2.641
8	15 57 37.79	2.9637	23 6 37.6	8.301	8	17 41 55.88	2.9723	27 30 56.3	2.505
9	15 59 41.75	2.9683	23 14 46.7	8.109	9	17 44 12.92	2.9757	27 33 22.5	2.367
10	16 1 45.99	2.9730	23 22 49.8	8.002	10	17 46 28.96	2.9789	27 35 40.4	2.229
11	16 3 50.51	2.9778	23 30 46.9	7.900	11	17 48 45.79	2.9821	27 37 50.0	2.092
12	16 5 55.32	2.9825	23 38 37.8	7.798	12	17 51 2.81	2.9853	27 39 51.4	1.953
13	16 8 0.41	2.9871	23 46 22.6	7.696	13	17 53 20.02	2.9883	27 41 44.4	1.813
14	16 10 5.77	2.9917	23 54 1.3	7.592	14	17 55 37.41	2.9914	27 43 28.9	1.672
15	16 12 11.41	2.9964	24 1 33.7	7.487	15	17 57 54.99	2.9944	27 45 5.0	1.531
16	16 14 17.34	2.1011	24 8 59.8	7.382	16	18 0 12.74	2.9978	27 46 32.6	1.390
17	16 16 23.55	2.1058	24 16 19.6	7.276	17	18 2 30.66	2.3008	27 47 51.8	1.249
18	16 18 30.04	2.1105	24 23 33.0	7.169	18	18 4 48.74	2.3037	27 49 2.5	1.107
19	16 20 36.81	2.1152	24 30 39.9	7.062	19	18 7 6.98	2.3063	27 50 4.6	0.964
20	16 22 43.87	2.1200	24 37 40.4	6.953	20	18 9 25.38	2.3079	27 50 58.1	0.820
21	16 24 51.21	2.1247	24 44 34.3	6.843	21	18 11 43.93	2.3104	27 51 43.0	0.676
22	16 26 58.83	2.1293	24 51 21.6	6.733	22	18 14 2.63	2.3127	27 52 19.2	0.532
23	16 29 6.73	2.1339	S. 24 58 2.3	6.622	23	18 16 21.46	2.3150	S. 27 52 46.8	0.388
FRIDAY 10.					SUNDAY 12.				
0	16 31 14.90	2.1386	S. 25 4 36.2	6.509	0	18 18 40.43	2.3178	S. 27 53 5.7	0.243
1	16 33 23.36	2.1433	25 11 3.4	6.396	1	18 20 59.53	2.3193	27 53 15.9	- 0.097
2	16 35 32.10	2.1479	25 17 23.8	6.283	2	18 23 18.75	2.3214	27 53 17.3	+ 0.050
3	16 37 41.11	2.1525	25 23 37.4	6.169	3	18 25 38.10	2.3234	27 53 9.9	0.197
4	16 39 50.40	2.1572	25 29 44.1	6.053	4	18 27 57.56	2.3258	27 52 53.7	0.343
5	16 41 59.97	2.1618	25 35 43.8	5.937	5	18 30 17.13	2.3279	27 52 28.8	0.489
6	16 44 9.82	2.1664	25 41 36.6	5.821	6	18 32 36.80	2.3297	27 51 55.1	0.636
7	16 46 19.94	2.1709	25 47 22.3	5.703	7	18 34 56.57	2.3303	27 51 12.5	0.784
8	16 48 30.33	2.1754	25 53 0.9	5.584	8	18 37 16.44	2.3318	27 50 21.0	0.932
9	16 50 40.99	2.1799	25 58 32.4	5.465	9	18 39 36.39	2.3333	27 49 20.6	1.081
10	16 52 51.92	2.1843	26 3 56.7	5.344	10	18 41 56.42	2.3345	27 48 11.3	1.229
11	16 55 3.11	2.1888	26 9 13.7	5.223	11	18 44 16.53	2.3358	27 46 53.1	1.378
12	16 57 14.57	2.1932	26 14 23.4	5.101	12	18 46 36.72	2.3370	27 45 25.9	1.527
13	16 59 26.29	2.1975	26 19 25.8	4.978	13	18 48 56.97	2.3380	27 43 49.8	1.677
14	17 1 38.27	2.2019	26 24 20.8	4.855	14	18 51 17.28	2.3389	27 42 4.7	1.826
15	17 3 50.52	2.2063	26 29 8.4	4.731	15	18 53 37.64	2.3398	27 40 10.7	1.975
16	17 6 3.03	2.2106	26 33 48.5	4.606	16	18 55 58.05	2.3406	27 38 7.7	2.125
17	17 8 15.79	2.2148	26 38 21.1	4.481	17	18 58 18.51	2.3419	27 35 55.7	2.274
18	17 10 28.80	2.2189	26 42 46.2	4.354	18	19 0 39.00	2.3417	27 33 34.8	2.423
19	17 12 42.06	2.2231	26 47 3.6	4.226	19	19 2 59.52	2.3423	27 31 4.9	2.573
20	17 14 55.57	2.2272	26 51 13.3	4.098	20	19 5 20.07	2.3427	27 28 26.0	2.723
21	17 17 9.33	2.2313	26 55 15.4	3.970	21	19 7 40.65	2.3431	27 25 38.1	2.874
22	17 19 23.33	2.2353	26 59 9.7	3.839	22	19 10 1.24	2.3438	27 22 41.1	3.025
23	17 21 37.56	2.2393	27 2 56.1	3.708	23	19 12 21.84	2.3433	27 19 35.1	3.175
24	17 23 52.03	2.2431	S. 27 6 34.7	3.577	24	19 14 42.44	2.3433	S. 27 16 20.1	3.325

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	19 14 42.44	2.3433	S. 27° 16' 20.1"	3.325	0	21 5 41.05	2.2557	S. 21° 49' 12.1"	10.107
1	19 17 3.04	2.3433	27 12 56.1	3.475	1	21 7 56.30	2.2527	21 39 1.9	10.322
2	19 19 23.64	2.3433	27 9 23.1	3.624	2	21 10 11.37	2.2496	21 28 44.2	10.356
3	19 21 44.23	2.3430	27 5 41.2	3.773	3	21 12 26.25	2.2464	21 18 19.2	10.479
4	19 24 4.80	2.3426	27 1 50.3	3.923	4	21 14 40.94	2.2433	21 7 46.8	10.601
5	19 26 25.34	2.3421	26 57 50.4	4.073	5	21 16 55.44	2.2403	20 57 7.1	10.722
6	19 28 45.85	2.3416	26 53 41.5	4.222	6	21 19 9.76	2.2371	20 46 20.2	10.842
7	19 31 6.33	2.3410	26 49 23.7	4.372	7	21 21 23.89	2.2339	20 35 26.1	10.961
8	19 33 26.77	2.3403	26 44 56.9	4.522	8	21 23 37.82	2.2306	20 24 24.9	11.079
9	19 35 47.17	2.3396	26 40 21.1	4.671	9	21 25 51.56	2.2274	20 13 16.6	11.197
10	19 38 7.52	2.3387	26 35 36.4	4.819	10	21 28 5.11	2.2242	20 2 1.3	11.313
11	19 40 27.81	2.3377	26 30 42.8	4.968	11	21 30 18.46	2.2209	19 50 39.1	11.427
12	19 42 48.05	2.3367	26 25 40.3	5.116	12	21 32 31.62	2.2177	19 39 10.1	11.540
13	19 45 8.22	2.3356	26 20 28.9	5.263	13	21 34 44.59	2.2145	19 27 34.3	11.653
14	19 47 28.32	2.3344	26 15 8.7	5.411	14	21 36 57.36	2.2113	19 15 51.7	11.768
15	19 49 48.35	2.3333	26 9 39.6	5.558	15	21 39 9.94	2.2081	19 4 2.5	11.877
16	19 52 8.30	2.3318	26 4 1.7	5.705	16	21 41 22.33	2.2049	18 52 6.7	11.981
17	19 54 28.17	2.3304	25 58 15.0	5.852	17	21 43 34.53	2.2017	18 40 4.3	12.094
18	19 56 47.95	2.3289	25 52 19.4	5.999	18	21 45 46.53	2.1984	18 27 55.4	12.211
19	19 59 7.64	2.3273	25 46 15.1	6.144	19	21 47 58.34	2.1952	18 15 40.1	12.311
20	20 1 27.23	2.3257	25 40 2.1	6.289	20	21 50 9.96	2.1921	18 3 18.5	12.411
21	20 3 46.72	2.3239	25 33 40.4	6.434	21	21 52 21.39	2.1889	17 50 50.7	12.511
22	20 6 6.10	2.3221	25 27 10.0	6.578	22	21 54 32.62	2.1857	17 38 16.7	12.611
23	20 8 25.37	2.3202	S. 25° 20' 31.0"	6.722	23	21 56 43.67	2.1826	S. 17° 25' 36.5"	12.711
TUESDAY 14.					THURSDAY 16.				
0	20 10 44.53	2.3183	S. 25° 13' 43.4"	6.865	0	21 58 54.53	2.1794	S. 17° 12' 50.3"	12.820
1	20 13 3.57	2.3163	25 6 47.2	7.008	1	22 1 5.20	2.1763	16 59 58.1	12.919
2	20 15 22.49	2.3142	24 59 42.4	7.151	2	22 3 15.69	2.1732	16 47 0.0	13.017
3	20 17 41.26	2.3121	24 52 29.1	7.293	3	22 5 25.99	2.1702	16 33 56.1	13.113
4	20 19 59.94	2.3099	24 45 7.3	7.433	4	22 7 36.11	2.1672	16 20 46.4	13.209
5	20 22 18.47	2.3077	24 37 37.1	7.573	5	22 9 46.05	2.1641	16 7 31.0	13.302
6	20 24 36.86	2.3054	24 29 58.5	7.713	6	22 11 55.80	2.1611	15 54 10.1	13.395
7	20 26 55.11	2.3030	24 22 11.5	7.852	7	22 14 5.38	2.1580	15 40 43.6	13.487
8	20 29 13.22	2.3006	24 14 16.2	7.992	8	22 16 14.78	2.1550	15 27 11.6	13.577
9	20 31 31.18	2.2981	24 6 12.5	8.131	9	22 18 24.00	2.1520	15 13 34.3	13.668
10	20 33 48.99	2.2955	23 58 0.5	8.267	10	22 20 33.05	2.1494	14 59 51.7	13.754
11	20 36 6.64	2.2929	23 49 40.4	8.403	11	22 22 41.93	2.1466	14 46 3.8	13.842
12	20 38 24.14	2.2903	23 41 12.1	8.539	12	22 24 50.64	2.1438	14 32 10.7	13.927
13	20 40 41.48	2.2877	23 32 35.7	8.674	13	22 26 59.18	2.1410	14 18 12.6	14.010
14	20 42 58.66	2.2849	23 23 51.2	8.809	14	22 29 7.56	2.1382	14 4 9.5	14.093
15	20 45 15.67	2.2822	23 14 58.6	8.943	15	22 31 15.77	2.1355	13 50 1.4	14.175
16	20 47 32.52	2.2794	23 5 58.1	9.075	16	22 33 23.82	2.1329	13 35 48.5	14.255
17	20 49 49.20	2.2766	22 56 49.6	9.207	17	22 35 31.72	2.1303	13 21 30.8	14.334
18	20 52 5.71	2.2737	22 47 33.2	9.339	18	22 37 39.46	2.1277	13 7 8.4	14.413
19	20 54 22.05	2.2708	22 38 8.9	9.469	19	22 39 47.05	2.1252	12 52 41.4	14.488
20	20 56 38.21	2.2678	22 28 36.9	9.598	20	22 41 54.49	2.1227	12 38 9.9	14.562
21	20 58 54.19	2.2648	22 18 57.2	9.726	21	22 44 1.77	2.1202	12 23 34.0	14.635
22	21 1 9.99	2.2618	22 9 9.8	9.854	22	22 46 8.91	2.1178	12 8 53.7	14.707
23	21 3 25.61	2.2588	21 59 14.7	9.981	23	22 48 15.91	2.1155	11 54 9.1	14.779
24	21 5 41.05	2.2557	S. 21° 49' 12.1"	10.107	24	22 50 22.77	2.1132	S. 11° 39' 20.2"	14.849

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	22 50 22.77	2.1139	S. 11° 30' 20.2"	14.849	0	0 30 19.71	2.0780	N. 1° 6' 54.7"	16.527
1	22 52 29.50	2.1110	11 24 27.2	14.917	1	0 32 24.42	2.0791	1 23 26.3	16.536
2	22 54 36.09	2.1088	11 9 30.2	14.983	2	0 34 29.20	2.0802	1 39 57.8	16.584
3	22 56 42.55	2.1067	10 54 29.3	15.048	3	0 36 34.05	2.0814	1 56 29.2	16.591
4	22 58 48.89	2.1047	10 39 24.5	15.113	4	0 38 38.97	2.0826	2 13 0.3	16.515
5	23 0 55.11	2.1026	10 24 15.8	15.178	5	0 40 43.98	2.0849	2 29 31.0	16.508
6	23 3 1.20	2.1006	10 9 3.4	15.237	6	0 42 49.07	2.0856	2 46 1.3	16.500
7	23 5 7.18	2.0987	9 53 47.4	15.297	7	0 44 54.25	2.0879	3 2 31.0	16.490
8	23 7 13.04	2.0968	9 38 27.8	15.356	8	0 46 59.53	2.0888	3 19 0.1	16.479
9	23 9 18.79	2.0950	9 23 4.7	15.413	9	0 49 4.91	2.0905	3 35 28.5	16.468
10	23 11 24.44	2.0933	9 7 38.3	15.468	10	0 51 10.39	2.0923	3 51 56.0	16.451
11	23 13 29.99	2.0916	8 52 8.6	15.523	11	0 53 15.98	2.0942	4 8 22.6	16.436
12	23 15 35.43	2.0899	8 36 35.6	15.576	12	0 55 21.69	2.0962	4 24 48.3	16.419
13	23 17 40.78	2.0884	8 20 59.5	15.627	13	0 57 27.52	2.0982	4 41 12.9	16.400
14	23 19 46.04	2.0869	8 5 20.3	15.677	14	0 59 33.47	2.1003	4 57 36.3	16.379
15	23 21 51.21	2.0854	7 49 38.2	15.726	15	1 1 39.55	2.1026	5 13 58.4	16.357
16	23 23 56.29	2.0841	7 33 53.2	15.773	16	1 3 45.77	2.1048	5 30 19.1	16.333
17	23 26 1.30	2.0828	7 18 5.4	15.819	17	1 5 52.13	2.1079	5 46 38.4	16.306
18	23 28 6.23	2.0816	7 2 14.9	15.863	18	1 7 58.63	2.1096	6 2 56.1	16.282
19	23 30 11.09	2.0804	6 46 21.8	15.907	19	1 10 5.28	2.1121	6 19 12.2	16.253
20	23 32 15.88	2.0792	6 30 26.1	15.949	20	1 12 12.09	2.1147	6 35 26.5	16.223
21	23 34 20.60	2.0782	6 14 27.9	15.989	21	1 14 19.05	2.1173	6 51 39.0	16.199
22	23 36 25.27	2.0773	5 58 27.4	16.027	22	1 16 26.17	2.1201	7 7 49.6	16.160
23	23 38 29.88	2.0764	S. 5 42 24.6	16.065	23	1 18 33.46	2.1230	N. 7 23 58.2	16.126
SATURDAY 18.					MONDAY 20.				
0	23 40 34.44	2.0756	S. 5 26 19.6	16.101	0	1 20 40.93	2.1259	N. 7 40 4.6	16.089
1	23 42 38.95	2.0748	5 10 12.5	16.135	1	1 22 48.57	2.1289	7 56 8.8	16.059
2	23 44 43.42	2.0743	4 54 3.4	16.168	2	1 24 56.40	2.1320	8 12 10.8	16.013
3	23 46 47.85	2.0736	4 37 52.3	16.201	3	1 27 4.41	2.1351	8 28 10.4	15.978
4	23 48 52.25	2.0730	4 21 39.3	16.231	4	1 29 12.61	2.1383	8 44 7.5	15.930
5	23 50 56.61	2.0724	4 5 24.6	16.259	5	1 31 21.01	2.1416	9 0 2.0	15.886
6	23 53 0.94	2.0720	3 49 8.2	16.287	6	1 33 29.61	2.1450	9 15 53.8	15.841
7	23 55 5.25	2.0718	3 32 50.2	16.313	7	1 35 38.41	2.1485	9 31 42.9	15.794
8	23 57 9.55	2.0716	3 16 30.7	16.338	8	1 37 47.43	2.1521	9 47 29.1	15.745
9	23 59 13.84	2.0714	3 0 9.7	16.361	9	1 39 56.66	2.1557	10 3 12.3	15.695
10	0 1 18.12	2.0712	2 43 47.4	16.383	10	1 42 6.11	2.1593	10 18 52.5	15.643
11	0 3 22.39	2.0719	2 27 23.9	16.401	11	1 44 15.78	2.1631	10 34 29.5	15.590
12	0 5 26.66	2.0719	2 10 59.3	16.419	12	1 46 25.68	2.1669	10 50 3.3	15.536
13	0 7 30.94	2.0714	1 54 33.6	16.437	13	1 48 35.81	2.1706	11 5 33.8	15.479
14	0 9 35.23	2.0716	1 38 6.9	16.453	14	1 50 46.18	2.1748	11 21 0.8	15.421
15	0 11 39.53	2.0718	1 21 39.3	16.467	15	1 52 56.79	2.1788	11 36 24.3	15.360
16	0 13 43.85	2.0722	1 5 10.9	16.479	16	1 55 7.64	2.1829	11 51 44.2	15.300
17	0 15 48.20	2.0727	0 48 41.8	16.491	17	1 57 18.74	2.1871	12 7 0.3	15.237
18	0 17 52.58	2.0732	0 32 12.0	16.501	18	1 59 30.09	2.1913	12 22 12.6	15.173
19	0 19 56.99	2.0738	S. 0 15 41.7	16.509	19	2 1 41.70	2.1957	12 37 21.0	15.107
20	0 22 1.44	2.0745	N. 0 0 49.1	16.516	20	2 3 53.57	2.2001	12 52 25.4	15.039
21	0 24 5.93	2.0753	0 17 20.2	16.521	21	2 6 5.71	2.2046	13 7 25.7	14.976
22	0 26 10.47	2.0761	0 33 51.6	16.524	22	2 8 18.12	2.2091	13 22 21.8	14.909
23	0 28 15.06	2.0770	0 50 23.1	16.526	23	2 10 30.80	2.2136	13 37 13.6	14.837
24	0 30 19.71	2.0780	N. 1 6 54.7	16.527	24	2 12 43.75	2.2182	N. 13 52 1.0	14.753

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	2 12 43.75	2.2188	N.13° 52' 1.0"	14.753	0	4 5 21.83	2.4817	N.23° 44' 3.7"	9.307
1	2 14 56.98	2.2229	14 6 43.9	14.677	1	4 7 50.90	2.4671	23 53 17.6	9.156
2	2 17 10.50	2.2277	14 21 22.2	14.599	2	4 10 20.28	2.4924	24 2 22.4	9.004
3	2 19 24.31	2.2326	14 35 55.8	14.520	3	4 12 49.98	2.4977	24 11 18.1	8.851
4	2 21 38.41	2.2374	14 50 24.6	14.440	4	4 15 20.00	2.5029	24 20 4.5	8.698
5	2 23 52.80	2.2423	15 4 48.6	14.358	5	4 17 50.33	2.5081	24 28 41.5	8.539
6	2 26 7.49	2.2473	15 19 7.6	14.274	6	4 20 20.98	2.5133	24 37 9.1	8.389
7	2 28 22.48	2.2524	15 33 21.5	14.188	7	4 22 51.93	2.5183	24 45 27.3	8.239
8	2 30 37.78	2.2575	15 47 30.2	14.109	8	4 25 23.18	2.5233	24 53 35.8	8.081
9	2 32 53.38	2.2626	16 1 33.7	14.013	9	4 27 54.72	2.5282	25 1 34.6	7.929
10	2 35 9.29	2.2678	16 15 31.8	13.922	10	4 30 26.56	2.5331	25 9 23.7	7.777
11	2 37 25.52	2.2731	16 29 24.4	13.830	11	4 32 58.69	2.5378	25 17 3.1	7.574
12	2 39 42.07	2.2784	16 43 11.4	13.737	12	4 35 31.10	2.5425	25 24 32.6	7.408
13	2 41 58.93	2.2837	16 56 52.8	13.649	13	4 38 3.79	2.5471	25 31 52.1	7.249
14	2 44 16.11	2.2891	17 10 28.4	13.544	14	4 40 36.75	2.5516	25 39 1.6	7.075
15	2 46 33.62	2.2946	17 23 58.1	13.446	15	4 43 9.98	2.5560	25 46 1.1	6.907
16	2 48 51.46	2.3000	17 37 21.9	13.346	16	4 45 43.47	2.5603	25 52 50.4	6.737
17	2 51 9.62	2.3054	17 50 39.6	13.244	17	4 48 17.22	2.5646	25 59 29.5	6.567
18	2 53 28.11	2.3110	18 3 51.2	13.141	18	4 50 51.22	2.5687	26 5 58.4	6.395
19	2 55 46.94	2.3166	18 16 56.5	13.036	19	4 53 25.46	2.5727	26 12 16.9	6.229
20	2 58 6.10	2.3221	18 29 55.5	12.930	20	4 55 59.94	2.5766	26 18 25.0	6.048
21	3 0 25.59	2.3277	18 42 48.1	12.822	21	4 58 34.65	2.5804	26 24 22.7	5.874
22	3 2 45.42	2.3334	18 55 34.1	12.719	22	5 1 9.59	2.5842	26 30 9.9	5.698
23	3 5 5.59	2.3391	N.19° 8' 13.5"	12.600	23	5 3 44.75	2.5877	N.26° 35' 46.5"	5.529
WEDNESDAY 22.					FRIDAY 24.				
0	3 7 26.11	2.3448	N.19° 20' 46.1"	12.487	0	5 6 20.11	2.5911	N.26° 41' 12.5"	5.345
1	3 9 46.97	2.3505	19 33 11.9	12.379	1	5 8 55.68	2.5945	26 46 27.9	5.167
2	3 12 8.17	2.3563	19 45 30.8	12.266	2	5 11 31.45	2.5977	26 51 32.5	4.987
3	3 14 29.71	2.3619	19 57 42.6	12.138	3	5 14 7.40	2.6007	26 56 26.3	4.807
4	3 16 51.60	2.3677	20 9 47.3	12.019	4	5 16 43.53	2.6037	27 1 9.3	4.627
5	3 19 13.83	2.3734	20 21 44.9	11.896	5	5 19 19.84	2.6065	27 5 41.5	4.446
6	3 21 36.41	2.3792	20 33 35.1	11.775	6	5 21 56.31	2.6092	27 10 2.8	4.264
7	3 23 59.34	2.3851	20 45 17.9	11.659	7	5 24 32.94	2.6118	27 14 13.2	4.089
8	3 26 22.62	2.3908	20 56 53.3	11.538	8	5 27 9.72	2.6142	27 18 12.6	3.906
9	3 28 46.24	2.3966	21 8 21.0	11.398	9	5 29 46.64	2.6164	27 22 0.9	3.713
10	3 31 10.21	2.4024	21 19 41.0	11.269	10	5 32 23.69	2.6185	27 25 38.2	3.529
11	3 33 34.53	2.4082	21 30 53.3	11.139	11	5 35 0.86	2.6205	27 29 4.4	3.345
12	3 35 59.19	2.4139	21 41 57.7	11.007	12	5 37 38.15	2.6224	27 32 19.6	3.160
13	3 38 24.20	2.4197	21 52 54.1	10.873	13	5 40 15.55	2.6241	27 35 23.6	2.974
14	3 40 49.55	2.4254	22 3 42.5	10.739	14	5 42 53.04	2.6256	27 38 16.4	2.788
15	3 43 15.25	2.4312	22 14 22.8	10.609	15	5 45 30.62	2.6270	27 40 58.1	2.608
16	3 45 41.29	2.4369	22 24 54.8	10.464	16	5 48 8.28	2.6282	27 43 28.6	2.415
17	3 48 7.68	2.4426	22 35 18.5	10.394	17	5 50 46.01	2.6293	27 45 47.9	2.227
18	3 50 34.41	2.4483	22 45 33.7	10.183	18	5 53 23.80	2.6302	27 47 55.9	2.040
19	3 53 1.48	2.4539	22 55 40.4	10.041	19	5 56 1.64	2.6310	27 49 52.7	1.859
20	3 55 28.88	2.4595	23 5 38.6	9.897	20	5 58 39.52	2.6317	27 51 38.2	1.684
21	3 57 56.62	2.4651	23 15 28.1	9.752	21	6 1 17.44	2.6322	27 53 12.4	1.476
22	4 0 24.69	2.4706	23 25 8.8	9.605	22	6 3 55.38	2.6324	27 54 35.3	1.288
23	4 2 53.09	2.4762	23 34 40.7	9.457	23	6 6 33.33	2.6326	27 55 47.0	1.100
24	4 5 21.83	2.4817	N.23° 44' 3.7"	9.307	24	6 9 11.29	2.6326	N.27° 56' 47.3"	0.911

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	6 9 11.29	2.6396	N.27° 56' 47.3	0.911	0	8 12 39.68	2.4617	N.25° 11' 41.9	7.478
1	6 11 49.24	2.6394	27 57 36.3	0.793	1	8 15 7.19	2.4554	25 4 9.1	7.691
2	6 14 27.18	2.6391	27 58 14.1	0.536	2	8 17 34.33	2.4499	24 56 27.4	7.768
3	6 17 5.09	2.6316	27 58 40.6	0.348	3	8 20 1.09	2.4498	24 48 36.9	7.914
4	6 19 42.97	2.6310	27 58 55.8	+ 0.159	4	8 22 27.47	2.4363	24 40 37.7	8.058
5	6 22 20.81	2.6308	27 58 59.7	- 0.089	5	8 24 53.45	2.4307	24 32 29.9	8.201
6	6 24 58.59	2.6299	27 58 52.3	0.317	6	8 27 19.04	2.4239	24 24 13.6	8.349
7	6 27 36.31	2.6280	27 58 33.7	0.404	7	8 29 44.23	2.4166	24 15 48.9	8.469
8	6 30 13.95	2.6267	27 58 3.8	0.591	8	8 32 9.03	2.4100	24 7 15.8	8.691
9	6 32 51.51	2.6253	27 57 22.7	0.778	9	8 34 33.43	2.4033	23 58 34.4	8.758
10	6 35 28.98	2.6237	27 56 30.4	0.964	10	8 36 57.43	2.3966	23 49 44.9	8.893
11	6 38 6.35	2.6219	27 55 27.0	1.150	11	8 39 21.02	2.3898	23 40 47.3	9.027
12	6 40 43.61	2.6200	27 54 12.4	1.336	12	8 41 44.20	2.3829	23 31 41.7	9.159
13	6 43 20.75	2.6179	27 52 46.6	1.522	13	8 44 6.97	2.3761	23 22 28.2	9.290
14	6 45 57.76	2.6157	27 51 9.8	1.708	14	8 46 29.33	2.3694	23 13 7.0	9.417
15	6 48 34.63	2.6133	27 49 21.9	1.890	15	8 48 51.28	2.3624	23 3 38.1	9.545
16	6 51 11.35	2.6107	27 47 23.0	2.074	16	8 51 12.82	2.3555	22 54 1.6	9.679
17	6 53 47.91	2.6080	27 45 13.0	2.258	17	8 53 33.94	2.3485	22 44 17.5	9.797
18	6 56 24.31	2.6058	27 42 52.0	2.441	18	8 55 54.64	2.3415	22 34 26.0	9.919
19	6 59 0.53	2.6032	27 40 20.1	2.623	19	8 58 14.92	2.3346	22 24 27.2	10.040
20	7 1 36.57	2.5991	27 37 37.4	2.803	20	9 0 34.79	2.3277	22 14 21.2	10.159
21	7 4 12.42	2.5958	27 34 43.8	2.983	21	9 2 54.24	2.3207	22 4 8.1	10.277
22	7 6 48.07	2.5924	27 31 39.4	3.163	22	9 5 13.27	2.3137	21 53 48.0	10.393
23	7 9 23.51	2.5888	N.27 28 24.2	3.349	23	9 7 31.88	2.3067	N.21 43 21.0	10.508
SUNDAY 26.					TUESDAY 28.				
0	7 11 58.73	2.5859	N.27 24 58.3	3.530	0	9 9 50.07	2.2997	N.21 32 47.1	10.621
1	7 14 33.73	2.5813	27 21 21.8	3.697	1	9 12 7.84	2.2937	21 22 6.5	10.739
2	7 17 8.49	2.5773	27 17 34.6	3.874	2	9 14 25.19	2.2858	21 11 19.2	10.848
3	7 19 43.01	2.5733	27 13 36.9	4.049	3	9 16 42.13	2.2788	21 0 25.4	10.950
4	7 22 17.29	2.5691	27 9 28.7	4.223	4	9 18 58.65	2.2717	20 49 25.2	11.057
5	7 24 51.30	2.5646	27 5 10.1	4.397	5	9 21 14.74	2.2647	20 38 18.6	11.162
6	7 27 25.04	2.5601	27 0 41.1	4.569	6	9 23 30.42	2.2578	20 27 5.8	11.265
7	7 29 58.51	2.5556	26 56 1.8	4.741	7	9 25 45.68	2.2509	20 15 46.8	11.367
8	7 32 31.71	2.5509	26 51 12.2	4.913	8	9 28 0.53	2.2441	20 4 21.8	11.467
9	7 35 4.62	2.5461	26 46 12.4	5.081	9	9 30 14.97	2.2373	19 52 50.8	11.565
10	7 37 37.24	2.5412	26 41 2.5	5.248	10	9 32 29.00	2.2303	19 41 14.0	11.663
11	7 40 9.56	2.5361	26 35 42.6	5.415	11	9 34 42.61	2.2234	19 29 31.4	11.758
12	7 42 41.57	2.5309	26 30 12.7	5.582	12	9 36 55.81	2.2167	19 17 43.1	11.852
13	7 45 13.27	2.5257	26 24 32.8	5.747	13	9 39 8.61	2.2099	19 5 49.2	11.943
14	7 47 44.65	2.5203	26 18 43.1	5.909	14	9 41 21.00	2.2031	18 53 49.9	12.033
15	7 50 15.70	2.5148	26 12 43.7	6.071	15	9 43 32.98	2.1963	18 41 45.2	12.122
16	7 52 46.42	2.5093	26 6 34.6	6.232	16	9 45 44.56	2.1896	18 29 35.2	12.210
17	7 55 16.81	2.5037	26 0 15.8	6.393	17	9 47 55.74	2.1830	18 17 20.0	12.296
18	7 57 46.86	2.4979	25 53 47.5	6.551	18	9 50 6.52	2.1763	18 4 59.7	12.380
19	8 0 16.56	2.4921	25 47 9.7	6.707	19	9 52 16.90	2.1697	17 52 34.4	12.462
20	8 2 45.91	2.4862	25 40 22.6	6.860	20	9 54 26.89	2.1633	17 40 4.2	12.544
21	8 5 14.90	2.4802	25 33 26.2	7.017	21	9 56 36.49	2.1567	17 27 20.1	12.624
22	8 7 43.53	2.4741	25 26 20.5	7.171	22	9 58 45.70	2.1503	17 14 49.3	12.702
23	8 10 11.79	2.4679	25 19 5.7	7.322	23	10 0 54.53	2.1439	17 2 4.9	12.778
24	8 12 39.68	2.4617	N.25 11 41.9	7.478	24	10 3 2.97	2.1375	N.16 49 16.0	12.853

GREENWICH MEAN TIME.

PHASES OF THE MOON.

 Last Quarter	.	.	.	.	.	.	.	Feb.	d 8	h 8	m 11.7
 New Moon	.	.	.	.	.	.	.		16	4	16.6
 First Quarter	.	.	.	.	.	.	.		23	2	13.8

[illegible]

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Arietis W.	100 54 27	2504	102 35 34	2518	104 16 22	2532	105 56 51	2545
	Aldebaran W.	70 30 33	2494	72 11 55	2505	73 53 1	2517	75 33 51	2529
	Pollux W.	26 19 58	2450	28 2 21	2463	29 44 27	2474	31 26 17	2487
	SATURN E.	54 28 3	2436	52 45 19	2448	51 2 52	2460	49 20 43	2473
	Spica E.	64 30 31	2448	62 48 5	2460	61 5 56	2474	59 24 6	2487
	Antares E.	110 23 7	2443	108 40 34	2455	106 58 18	2468	105 16 20	2481
2	Aldebaran W.	83 53 40	2594	85 32 43	2607	87 11 28	2622	88 49 53	2636
	Pollux W.	39 51 2	2551	41 31 4	2564	43 10 48	2579	44 50 12	2593
	SATURN E.	40 54 35	2540	39 14 18	2555	37 34 21	2569	35 54 43	2583
	Spica E.	50 59 36	2556	49 19 40	2570	47 40 4	2585	46 0 48	2599
	Antares E.	96 51 5	2548	95 10 59	2562	93 31 12	2576	91 51 44	2591
3	Aldebaran W.	96 57 7	2710	98 33 34	2724	100 9 42	2740	101 45 29	2754
	Pollux W.	53 2 23	2664	54 39 51	2678	56 17 0	2693	57 53 49	2707
	Spica E.	37 49 37	2676	36 12 25	2689	34 35 34	2708	32 59 5	2721
	Antares E.	83 39 20	2663	82 1 50	2678	80 24 40	2692	78 47 49	2707
4	Pollux W.	65 53 10	2779	67 28 6	2792	69 2 44	2806	70 37 4	2819
	Regulus W.	29 31 4	2818	31 5 8	2830	32 38 58	2844	34 12 34	2851
	Antares E.	70 48 24	2778	69 13 27	2792	67 38 49	2805	66 4 28	2819
	VENUS E.	116 29 5	2947	115 3 51	2962	113 38 55	2976	112 14 16	2991
	SUN E.	138 5 31	3174	136 38 51	3188	135 12 28	3202	133 46 21	3214
5	Pollux W.	78 24 27	2884	79 57 6	2896	81 29 30	2908	83 1 39	2919
	Regulus W.	41 57 4	2905	43 29 16	2916	45 1 14	2927	46 32 59	2938
	Antares E.	58 17 4	2884	56 44 25	2896	55 12 1	2909	53 39 53	2920
	VENUS E.	105 15 13	3361	103 52 12	3375	102 29 27	3387	101 6 56	3400
	SUN E.	126 39 35	3379	125 14 59	3391	123 50 37	3404	122 26 30	3415
6	Pollux W.	90 38 55	2972	92 9 43	2981	93 40 20	2990	95 10 45	2998
	Regulus W.	54 8 29	2986	55 38 59	2995	57 9 18	3003	58 39 27	3012
	Antares E.	46 2 43	2973	44 31 57	2982	43 1 22	2992	41 30 59	3000
	VENUS E.	94 17 50	3458	92 56 39	3468	91 35 39	3479	90 14 51	3488
	SUN E.	115 29 10	3370	114 6 19	3379	112 43 39	3388	111 21 9	3396
7	Pollux W.	102 40 22	3035	104 9 51	3041	105 39 13	3046	107 8 29	3052
	Regulus W.	66 7 49	3046	67 37 5	3052	69 6 14	3057	70 35 16	3061
	SATURN W.	22 6 23	3026	23 36 4	3031	25 5 38	3036	26 35 6	3040
	Antares E.	34 1 35	3039	32 32 10	3044	31 2 52	3051	29 33 42	3056
	VENUS E.	83 33 18	3598	82 13 25	3635	80 53 40	3641	79 34 1	3646
	SUN E.	104 31 5	3436	103 9 29	3442	101 48 0	3447	100 26 37	3453
8	Regulus W.	77 59 12	3078	79 27 48	3080	80 56 22	3088	82 24 54	3092
	SATURN W.	34 1 13	3056	35 30 16	3059	36 59 16	3060	38 28 15	3061
	Spica W.	23 58 14	3098	25 26 26	3096	26 54 40	3096	28 22 55	3095
	VENUS E.	72 57 8	3567	71 37 58	3569	70 18 50	3572	68 59 45	3573
	α Aquilæ E.	76 41 39	3963	75 29 23	3978	74 17 22	3993	73 5 36	4000
	SUN E.	93 41 0	3471	92 20 4	3473	90 59 10	3475	89 38 18	3477
9	Regulus W.	89 47 29	3080	91 16 3	3078	92 44 39	3076	94 13 18	3073
	SATURN W.	45 53 3	3058	47 22 4	3056	48 51 8	3053	50 20 15	3051

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Arietis	W.	107° 37' 1"	2500	109° 16' 51"	2574	110° 56' 21"	2590	112° 35' 30"	2604
	Aldebaran	W.	77 14 24	2541	78 54 40	2554	80 34 38	2567	82 14 18	2580
	Pollux	W.	33 7 49	2499	34 49 4	2511	36 30 2	2525	38 10 41	2538
	SATURN	E.	47 38 52	2487	45 57 20	2490	44 16 6	2513	42 35 11	2527
	Spica	E.	57 42 34	2500	56 1 21	2514	54 20 27	2527	52 39 52	2541
	Antares	E.	103 34 40	2494	101 53 18	2507	100 12 15	2520	98 31 30	2535
2	Aldebaran	W.	90 27 59	2651	92 5 45	2685	93 43 12	2690	95 20 19	2694
	Pollux	W.	46 29 17	2607	48 8 3	2621	49 46 29	2635	51 24 36	2650
	SATURN	E.	34 15 24	2597	32 36 25	2612	30 57 46	2626	29 19 27	2641
	Spica	E.	44 21 53	2615	42 43 18	2630	41 5 4	2645	39 27 10	2660
	Antares	E.	90 12 36	2605	88 33 48	2619	86 55 19	2634	85 17 10	2648
3	Aldebaran	W.	103 20 57	2770	104 56 4	2785	106 30 52	2801	108 5 19	2815
	Pollux	W.	59 30 19	2722	61 6 30	2736	62 42 22	2750	64 17 55	2764
	Spica	E.	31 22 57	2741	29 47 11	2757	28 11 47	2774	26 36 45	2790
	Antares	E.	77 11 18	2791	75 35 6	2735	73 59 13	2750	72 23 39	2764
4	Pollux	W.	72 11 7	2833	73 44 52	2846	75 18 20	2859	76 51 32	2873
	Regulus	W.	35 45 56	2862	37 19 4	2873	38 51 58	2883	40 24 38	2894
	Antares	E.	64 30 25	2832	62 56 39	2846	61 23 11	2859	59 49 59	2872
	VENUS	E.	110 49 54	3306	109 25 49	3320	108 2 1	3334	106 38 29	3348
	SUN	E.	132 20 29	3998	130 54 53	3941	129 29 32	3953	128 4 26	3966
5	Pollux	W.	84 33 34	2931	86 5 14	2941	87 36 41	2952	89 7 54	2962
	Regulus	W.	48 4 30	2948	49 35 48	2958	51 6 54	2968	52 37 47	2977
	Antares	E.	52 7 59	2931	50 36 20	2949	49 4 54	2963	47 33 42	2963
	VENUS	E.	99 44 40	3413	98 22 38	3424	97 0 49	3436	95 39 13	3447
	SUN	E.	121 2 36	3397	119 38 56	3338	118 15 28	3349	116 52 13	3359
6	Pollux	W.	96 41 0	3007	98 11 4	3014	99 40 59	3022	101 10 45	3029
	Regulus	W.	60 9 25	3019	61 39 14	3026	63 8 54	3033	64 38 26	3040
	Antares	E.	40 0 46	3009	38 30 44	3017	37 0 52	3024	35 31 9	3031
	VENUS	E.	88 54 13	3497	87 33 45	3506	86 13 27	3514	84 53 18	3522
	SUN	E.	109 58 50	3407	108 36 41	3414	107 14 40	3422	105 52 48	3430
7	Pollux	W.	108 37 38	3056	110 6 42	3060	111 35 40	3064	113 4 34	3066
	Regulus	W.	72 4 13	3066	73 33 4	3069	75 1 51	3073	76 30 33	3076
	SATURN	W.	28 4 29	3045	29 33 46	3048	31 2 59	3052	32 32 8	3055
	Antares	E.	28 4 38	3061	26 35 41	3066	25 6 50	3070	23 38 4	3074
	VENUS	E.	78 14 28	3552	76 55 1	3556	75 35 39	3561	74 16 22	3564
	SUN	E.	99 5 20	3458	97 44 9	3462	96 23 2	3465	95 1 59	3469
8	Regulus	W.	83 53 25	3083	85 21 55	3082	86 50 26	3082	88 18 57	3082
	SATURN	W.	39 57 12	3061	41 26 9	3061	42 55 6	3060	44 24 4	3060
	Spica	W.	29 51 11	3093	31 19 29	3091	32 47 49	3089	34 16 12	3087
	VENUS	E.	67 40 41	3574	66 21 38	3574	65 2 35	3574	63 43 32	3573
	α Aquilæ	E.	71 54 5	4026	70 42 51	4042	69 31 53	4061	68 21 13	4081
	SUN	E.	88 17 28	3477	86 56 38	3477	85 35 48	3476	84 14 57	3475
9	Regulus	W.	95 42 1	3089	97 10 48	3085	98 39 40	3081	100 8 37	3057
	SATURN	W.	51 49 25	3047	53 18 40	3043	54 48 0	3039	56 17 25	3033

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
9	Spica W.	35° 44' 37"	3064	37° 13' 6"	3062	38° 41' 38"	3078	40° 10' 14"	3074
	Venus E.	62 24 28	3573	61 5 23	3569	59 46 15	3567	58 27 5	3565
	α Aquilæ E.	67 10 53	4109	66 0 53	4125	64 51 15	4149	63 42 0	4174
	Sun E.	82 54 5	3473	81 33 11	3471	80 12 15	3469	78 51 16	3466
10	Regulus W.	101 37 39	3053	103 6 48	3047	104 36 3	3040	106 5 26	3033
	Saturn W.	57 46 57	3028	59 16 35	3022	60 46 21	3016	62 16 14	3009
	Spica W.	47 34 34	3050	49 3 45	3043	50 33 4	3037	52 2 31	3030
	Venus E.	51 50 18	3544	50 30 42	3537	49 10 59	3532	47 51 10	3525
	α Aquilæ E.	58 2 20	4331	56 55 56	4373	55 50 9	4414	54 45 0	4459
	Sun E.	72 5 18	3443	70 43 50	3437	69 22 15	3430	68 0 32	3423
11	Saturn W.	69 47 54	2969	71 18 45	2961	72 49 47	2951	74 21 1	2942
	Spica W.	59 32 4	2969	61 2 30	2960	62 33 8	2971	64 3 57	2961
	Venus E.	41 10 10	3488	39 49 32	3480	38 28 45	3471	37 7 48	3463
	α Aquilæ E.	49 30 43	4709	48 30 35	4841	47 31 32	4926	46 33 38	5022
	Sun E.	61 9 52	3389	59 47 15	3372	58 24 27	3363	57 1 28	3352
12	Saturn W.	82 0 23	2888	83 32 57	2876	85 5 46	2865	86 38 50	2853
	Spica W.	71 41 19	2907	73 13 29	2895	74 45 54	2883	76 18 34	2872
	Antares W.	25 47 23	2909	27 19 31	2897	28 51 54	2884	30 24 33	2872
	Venus E.	30 20 38	3418	28 58 42	3410	27 36 37	3403	26 14 24	3396
	Sun E.	50 3 33	3299	48 39 20	3287	47 14 53	3275	45 50 12	3264
13	Saturn W.	94 28 8	2790	96 2 49	2776	97 37 48	2763	99 13 4	2750
	Spica W.	84 5 51	2808	85 40 8	2795	87 14 42	2782	88 49 33	2769
	Antares W.	38 11 55	2807	39 46 14	2794	41 20 50	2780	42 55 44	2766
	Sun E.	38 43 19	3204	37 17 14	3192	35 50 55	3180	34 24 22	3168
14	Saturn W.	107 13 47	2683	108 50 50	2670	110 28 10	2657	112 5 48	2643
	Spica W.	96 48 14	2701	98 24 52	2689	100 1 47	2675	101 39 0	2661
	Antares W.	50 54 41	2699	52 31 22	2685	54 8 22	2672	55 45 40	2658
	Sun E.	27 8 23	3120	25 40 38	3114	24 12 45	3106	22 44 45	3105
17	Sun W.	11 7 42	3078	12 36 18	2997	14 6 35	2934	15 38 11	2885
	Mars E.	54 43 10	2624	53 4 47	2614	51 26 11	2604	49 47 22	2596
	α Arietis E.	58 6 38	2494	56 25 16	2488	54 43 46	2483	53 2 9	2479
	Aldebaran E.	88 24 49	2458	86 42 37	2450	85 0 13	2441	83 17 37	2433
18	Sun W.	23 28 4	2753	25 3 34	2736	26 39 26	2722	28 15 37	2710
	Mars E.	41 30 30	2558	39 50 37	2551	38 10 34	2544	36 30 22	2538
	α Arietis E.	44 33 0	2472	42 51 7	2475	41 9 18	2477	39 27 33	2483
	Aldebaran E.	74 41 59	2400	72 58 24	2394	71 14 41	2389	69 30 51	2385
	Pollux E.	118 30 35	2349	116 45 47	2342	115 0 49	2337	113 15 43	2331
19	Sun W.	36 20 9	2663	37 57 38	2657	39 35 16	2651	41 13 2	2645
	Aldebaran E.	60 50 20	2371	59 6 3	2369	57 21 44	2368	55 37 24	2368
	Pollux E.	104 28 14	2307	102 42 24	2303	100 56 29	2300	99 10 29	2296
20	Sun W.	49 23 30	2225	51 1 51	2223	52 40 15	2221	54 18 42	2218
	Aldebaran E.	46 56 2	2379	45 11 57	2383	43 27 58	2389	41 44 7	2396
	Pollux E.	90 19 26	2285	88 33 4	2283	86 46 40	2282	85 0 14	2281

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9	Spica	W.	41° 36' 55"	3070	43° 7' 41"	3068	44° 36' 32"	3060	46° 5' 30"	3056
	VENUS	E.	57 7 52	3561	55 48 35	3557	54 29 14	3554	53 9 49	3548
	α Aquilæ	E.	62 33 9	4901	61 24 44	4930	60 16 46	4961	59 9 17	4995
	SUN	E.	77 30 14	3469	76 9 7	3458	74 47 56	3454	73 26 40	3448
10	Regulus	W.	107 34 58	3098	109 4 38	3019	110 34 27	3012	112 4 25	3004
	SATURN	W.	63 46 15	3009	65 16 25	2994	66 46 45	2987	68 17 14	2978
	Spica	W.	53 32 6	3022	55 1 51	3015	56 31 45	3007	58 1 49	2998
	VENUS	E.	46 31 14	3519	45 11 11	3511	43 50 59	3504	42 30 39	3496
	α Aquilæ	E.	53 40 32	4510	52 36 49	4505	51 33 54	4495	50 31 51	4489
	SUN	E.	66 38 42	3415	65 16 43	3408	63 54 36	3400	62 32 19	3391
11	SATURN	W.	75 52 27	2931	77 24 6	2921	78 55 58	2910	80 28 4	2900
	Spica	W.	65 34 59	2950	67 6 14	2940	68 37 42	2929	70 9 24	2919
	VENUS	E.	35 46 42	3454	34 25 26	3445	33 4 0	3436	31 42 24	3427
	α Aquilæ	E.	45 37 0	5125	44 41 42	5122	43 47 52	5109	42 55 35	5113
	SUN	E.	55 38 17	3343	54 14 55	3332	52 51 20	3321	51 27 33	3310
12	SATURN	W.	88 12 9	2841	89 45 44	2828	91 19 36	2815	92 53 44	2803
	Spica	W.	77 51 29	2859	79 24 40	2847	80 58 7	2834	82 31 51	2821
	Antares	W.	31 57 28	2859	33 30 40	2846	35 4 8	2833	36 37 53	2820
	VENUS	E.	24 52 3	3391	23 29 36	3386	22 7 3	3382	20 44 26	3380
	SUN	E.	44 25 18	3252	43 0 10	3239	41 34 47	3227	40 9 10	3215
13	SATURN	W.	100 48 37	2737	102 24 28	2724	104 0 36	2710	105 37 2	2696
	Spica	W.	90 24 42	2756	92 0 8	2742	93 35 52	2729	95 11 54	2715
	Antares	W.	44 30 56	2753	46 6 26	2740	47 42 13	2726	49 18 18	2713
	SUN	E.	32 57 35	3158	31 30 35	3147	30 3 22	3138	28 35 58	3129
14	SATURN	W.	113 43 45	2629	115 22 0	2616	117 0 33	2603	118 39 24	2590
	Spica	W.	103 16 32	2648	104 54 22	2635	106 32 29	2622	108 10 54	2609
	Antares	W.	57 23 16	2645	59 1 10	2632	60 39 22	2618	62 17 52	2605
	SUN	E.	21 16 41	3104	19 48 36	3108	18 20 36	3115	16 52 45	3129
17	SUN	W.	17 10 49	2848	18 44 15	2818	20 18 20	2792	21 52 58	2771
	MARS	E.	48 8 22	2588	46 29 10	2580	44 49 47	2572	43 10 14	2564
	α Arietis	E.	51 20 26	2475	49 38 38	2473	47 56 47	2472	46 14 54	2471
	Aldebaran	E.	81 34 50	2426	79 51 52	2419	78 8 44	2412	76 25 26	2405
18	SUN	W.	29 52 4	2698	31 28 46	2688	33 5 42	2679	34 42 50	2671
	MARS	E.	34 50 2	2533	33 9 34	2527	31 28 59	2522	29 48 17	2518
	α Arietis	E.	37 45 56	2490	36 4 29	2499	34 23 15	2512	32 42 19	2528
	Aldebaran	E.	67 46 55	2381	66 2 53	2378	64 18 46	2375	62 34 35	2372
	Pollux	E.	111 30 28	2325	109 45 5	2320	107 59 35	2315	106 13 58	2311
19	SUN	W.	42 50 56	2640	44 28 56	2636	46 7 2	2632	47 45 14	2629
	Aldebaran	E.	53 53 4	2369	52 8 45	2370	50 24 27	2372	48 40 12	2375
	Pollux	E.	97 24 24	2294	95 38 15	2291	93 52 2	2289	92 5 46	2286
20	SUN	W.	55 57 12	2617	57 35 44	2615	59 14 18	2614	60 52 54	2614
	Aldebaran	E.	40 0 26	2404	38 16 57	2415	36 33 42	2427	34 50 43	2439
	Pollux	E.	83 13 46	2280	81 27 17	2280	79 40 48	2280	77 54 19	2279

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21	SUN W.	62° 31' 30"	9613	64° 10' 7"	9613	65° 48' 44"	9613	67° 27' 21"	9613
	Pollux E.	76 7 49	9979	74 21 19	9980	72 34 50	9981	70 48 22	9981
	Regulus E.	112 41 22	9991	110 55 9	9990	109 8 55	9991	107 22 42	9991
22	SUN W.	75 40 14	9618	77 18 44	9630	78 57 12	9621	80 35 38	9624
	JUPITER W.	26 35 45	9346	28 20 37	9348	30 5 27	9350	31 50 14	9359
	Pollux E.	61 56 23	9987	60 10 5	9989	58 23 50	9991	56 37 38	9993
	Regulus E.	98 31 51	9996	96 45 46	9998	94 59 43	9990	93 13 43	9998
23	SUN W.	88 47 4	9635	90 25 12	9638	92 3 16	9640	93 41 16	9643
	JUPITER W.	40 33 23	9363	42 17 51	9366	44 2 14	9369	45 46 33	9379
	α Arietis W.	28 28 15	9559	30 8 7	9535	31 48 31	9517	33 29 21	9500
	MARS W.	25 56 13	9510	27 37 12	9513	29 18 7	9515	30 58 59	9519
	Pollux E.	47 47 24	9305	46 1 32	9308	44 15 44	9311	42 30 1	9314
	Regulus E.	84 24 29	9313	82 38 48	9316	80 53 12	9319	79 7 40	9322
24	SUN W.	101 50 13	9660	103 27 46	9663	105 5 15	9668	106 42 38	9672
	JUPITER W.	54 27 5	9388	56 10 57	9391	57 54 44	9395	59 38 26	9398
	α Arietis W.	41 57 58	9455	43 40 15	9450	45 22 38	9447	47 5 6	9444
	MARS W.	39 22 11	9535	41 2 36	9539	42 42 55	9543	44 23 9	9546
	Regulus E.	70 21 6	9338	68 36 2	9342	66 51 3	9346	65 6 10	9350
25	SUN W.	114 48 10	9694	116 24 58	9696	118 1 40	9704	119 38 15	9708
	JUPITER W.	68 15 34	9419	69 58 42	9423	71 41 44	9426	73 24 39	9432
	α Arietis W.	55 38 4	9441	57 20 41	9443	59 3 16	9443	60 45 50	9445
	MARS W.	52 43 0	9566	54 22 41	9571	56 2 16	9575	57 41 45	9580
	Aldebaran W.	25 43 35	9613	27 22 12	9590	29 1 21	9571	30 40 56	9556
	Regulus E.	56 23 16	9372	54 39 1	9377	52 54 53	9382	51 10 52	9387
	SATURN E.	99 27 47	9339	97 42 45	9343	95 57 48	9347	94 12 57	9352
26	JUPITER W.	81 57 35	9457	83 39 49	9462	85 21 55	9468	87 3 53	9474
	α Arietis W.	69 17 48	9460	70 59 58	9463	72 42 3	9467	74 24 2	9472
	MARS W.	65 57 28	9606	67 36 15	9611	69 14 55	9617	70 53 27	9623
	Aldebaran W.	39 2 58	9515	40 43 50	9512	42 24 47	9510	44 5 46	9509
	Regulus E.	42 32 50	9418	40 49 41	9494	39 6 41	9432	37 23 52	9440
	SATURN E.	85 30 23	9375	83 46 13	9381	82 2 11	9386	80 18 16	9392
	Spica E.	96 31 29	9398	94 47 52	9403	93 4 22	9409	91 21 0	9414
27	JUPITER W.	95 31 40	9504	97 12 47	9511	98 53 45	9518	100 34 33	9525
	α Arietis W.	82 52 13	9499	84 33 28	9505	86 14 34	9511	87 55 32	9518
	MARS W.	79 4 4	9655	80 41 45	9661	82 19 17	9668	83 56 40	9675
	Aldebaran W.	52 30 36	9517	54 11 25	9520	55 52 11	9524	57 32 51	9527
	SATURN E.	71 40 46	9492	69 57 42	9498	68 14 47	9435	66 32 2	9441
	Spica E.	82 46 12	9444	81 3 40	9451	79 21 18	9458	77 39 6	9465
28	α Arietis W.	96 17 52	9556	97 57 48	9564	99 37 32	9573	101 17 4	9582
	MARS W.	92 1 2	9714	93 37 23	9722	95 13 33	9732	96 49 31	9740
	Aldebaran W.	65 54 33	9556	67 34 29	9562	69 14 16	9569	70 53 54	9576
	Pollux W.	21 40 24	9508	23 21 26	9515	25 2 19	9522	26 43 2	9530
	SATURN E.	58 0 45	9478	56 19 1	9487	54 37 29	9494	52 56 8	9502
	Spica E.	69 10 35	9502	67 29 25	9510	65 48 26	9519	64 7 39	9527
	Antares E.	115 3 26	9496	113 22 10	9506	111 41 5	9515	110 0 12	9522

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21	SUN	W.	69° 5' 58"	2614	70° 44' 34"	2615	72° 23' 9"	2616	74° 1' 42"	2617
	Pollux	E.	69 1 55	2262	67 15 29	2263	65 29 5	2265	63 42 43	2266
	Regulus	E.	105 36 29	2291	103 50 17	2293	102 4 7	2294	100 17 58	2295
22	SUN	W.	82 14 1	2625	83 52 22	2626	85 30 39	2630	87 8 53	2632
	JUPITER	W.	33 34 58	2354	35 19 39	2356	37 4 17	2358	38 48 52	2361
	Pollux	E.	54 51 28	2296	53 5 22	2298	51 19 19	2300	49 33 20	2302
	Regulus	E.	91 27 46	2304	89 41 52	2306	87 56 1	2308	86 10 13	2311
23	SUN	W.	95 19 12	2646	96 57 4	2649	98 34 52	2653	100 12 35	2657
	JUPITER	W.	47 30 48	2375	49 14 59	2378	50 59 6	2381	52 43 8	2384
	α Arietis	W.	35 10 34	2487	36 52 5	2477	38 33 51	2468	40 15 49	2460
	MARS	W.	32 39 46	2522	34 20 29	2525	36 1 8	2528	37 41 42	2532
	Pollux	E.	40 44 22	2317	38 58 48	2320	37 13 18	2324	35 27 54	2328
	Regulus	E.	77 22 12	2324	75 36 48	2326	73 51 29	2331	72 6 15	2335
24	SUN	W.	108 19 56	2676	109 57 8	2680	111 34 15	2684	113 11 16	2689
	JUPITER	W.	61 22 3	2403	63 5 34	2406	64 49 0	2410	66 32 20	2415
	α Arietis	W.	48 47 38	2442	50 30 13	2441	52 12 49	2441	53 55 26	2440
	MARS	W.	46 3 18	2550	47 43 22	2554	49 23 20	2558	51 3 13	2562
	Regulus	E.	63 21 23	2354	61 36 42	2358	59 52 7	2362	58 7 38	2367
25	SUN	W.	121 14 44	2713	122 51 6	2719	124 27 20	2725	126 3 26	2731
	JUPITER	W.	75 7 28	2437	76 50 10	2441	78 32 46	2447	80 15 14	2452
	α Arietis	W.	62 28 21	2447	64 10 49	2450	65 53 13	2453	67 35 33	2456
	MARS	W.	59 21 7	2585	61 0 22	2590	62 39 31	2595	64 18 33	2600
	Aldebaran	W.	32 20 52	2543	34 1 6	2533	35 41 33	2525	37 22 11	2519
	Regulus	E.	49 26 59	2393	47 43 14	2398	45 59 37	2405	44 16 9	2411
	SATURN	E.	92 28 13	2356	90 43 35	2361	88 59 4	2366	87 14 40	2371
26	JUPITER	W.	88 45 43	2460	90 27 25	2465	92 8 59	2492	93 50 24	2498
	α Arietis	W.	76 5 54	2477	77 47 40	2482	79 29 18	2487	81 10 49	2492
	MARS	W.	72 31 51	2629	74 10 7	2635	75 48 15	2641	77 26 14	2648
	Aldebaran	W.	45 46 47	2510	47 27 47	2510	49 8 46	2512	50 49 43	2515
	Regulus	E.	35 41 14	2448	33 58 48	2458	32 16 35	2467	30 34 35	2477
	SATURN	E.	78 34 30	2397	76 50 51	2403	75 7 21	2409	73 23 59	2415
	Spica	E.	89 37 45	2420	87 54 39	2426	86 11 41	2432	84 28 52	2438
27	JUPITER	W.	102 15 11	2533	103 55 39	2540	105 35 57	2548	107 16 4	2555
	α Arietis	W.	89 36 20	2525	91 16 59	2533	92 57 27	2540	94 37 45	2548
	MARS	W.	85 33 53	2683	87 10 56	2691	88 47 48	2698	90 24 30	2706
	Aldebaran	W.	59 13 26	2532	60 53 55	2538	62 34 15	2543	64 14 28	2549
	SATURN	E.	64 49 26	2448	63 7 0	2456	61 24 45	2463	59 42 40	2470
	Spica	E.	75 57 3	2472	74 15 10	2480	72 33 28	2487	70 51 56	2494
28	α Arietis	W.	102 56 24	2591	104 35 31	2601	106 14 25	2611	107 53 5	2621
	MARS	W.	98 25 18	2749	100 0 53	2758	101 36 16	2767	103 11 27	2776
	Aldebaran	W.	72 33 22	2583	74 12 40	2591	75 51 47	2599	77 30 43	2608
	Pollux	W.	28 23 34	2537	30 3 56	2545	31 44 7	2553	33 24 7	2561
	SATURN	E.	51 14 58	2511	49 34 0	2520	47 53 15	2528	46 12 41	2538
	Spica	E.	62 27 3	2535	60 46 39	2545	59 6 28	2554	57 26 30	2563
	Antares	E.	108 19 30	2531	106 39 0	2540	104 58 42	2548	103 18 36	2557

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Wed.	1	^h 22 ^m 50 ^s 31.38	9.347	S. 7° 22' 48.5"	+57.10	16' 10.35	^s 65.41	^m 12 ^s 26.18	^s 0.508
Thur.	2	22 54 15.46	9.327	6 59 55.0	57.35	16 10.10	65.34	12 13.75	0.528
Frid.	3	22 57 59.06	9.307	6 36 55.7	57.59	16 9.86	65.27	12 0.83	0.548
Sat.	4	23 1 42.20	9.289	6 13 50.8	+57.81	16 9.60	65.20	11 47.46	0.566
SUN.	5	23 5 24.92	9.271	5 50 40.8	58.01	16 9.35	65.14	11 33.66	0.584
Mon.	6	23 9 7.20	9.254	5 27 26.1	58.21	16 9.09	65.08	11 19.43	0.601
Tues.	7	23 12 49.10	9.238	5 4 6.9	+58.39	16 8.83	65.02	11 4.82	0.617
Wed.	8	23 16 30.62	9.223	4 40 43.6	58.55	16 8.57	64.96	10 49.82	0.632
Thur.	9	23 20 11.80	9.209	4 17 16.6	58.69	16 8.30	64.91	10 34.48	0.645
Frid.	10	23 23 52.66	9.196	3 53 46.3	+58.82	16 8.03	64.86	10 18.84	0.659
Sat.	11	23 27 33.20	9.183	3 30 13.0	58.94	16 7.77	64.82	10 2.86	0.672
SUN.	12	23 31 13.44	9.171	3 6 37.1	59.04	16 7.49	64.77	9 46.60	0.683
Mon.	13	23 34 53.42	9.160	2 42 59.0	+59.12	16 7.22	64.73	9 30.07	0.694
Tues.	14	23 38 33.14	9.150	2 19 19.1	59.19	16 6.95	64.69	9 13.28	0.704
Wed.	15	23 42 12.64	9.141	1 55 37.7	59.25	16 6.68	64.66	8 56.27	0.713
Thur.	16	23 45 51.92	9.132	1 31 55.3	+59.28	16 6.41	64.63	8 39.04	0.722
Frid.	17	23 49 31.00	9.124	1 8 12.2	59.30	16 6.14	64.60	8 21.62	0.730
Sat.	18	23 53 9.90	9.117	0 44 28.8	59.30	16 5.87	64.57	8 4.01	0.738
SUN.	19	23 56 48.62	9.110	S. 0 20 45.6	+59.29	16 5.59	64.55	7 46.22	0.744
Mon.	20	0 0 27.19	9.105	N. 0 2 57.0	59.26	16 5.32	64.53	7 28.30	0.749
Tues.	21	0 4 5.63	9.099	0 26 38.8	59.21	16 5.05	64.52	7 10.25	0.755
Wed.	22	0 7 43.97	9.095	0 50 19.2	+59.15	16 4.78	64.50	6 52.08	0.759
Thur.	23	0 11 22.21	9.092	1 13 58.0	59.07	16 4.51	64.49	6 33.81	0.762
Frid.	24	0 15 0.37	9.089	1 37 34.7	58.98	16 4.24	64.48	6 15.46	0.766
Sat.	25	0 18 38.47	9.087	2 1 9.0	+58.87	16 3.97	64.48	5 57.05	0.768
SUN.	26	0 22 16.53	9.086	2 24 40.5	58.75	16 3.70	64.48	5 38.62	0.768
Mon.	27	0 25 54.59	9.086	2 48 8.8	58.61	16 3.43	64.48	5 20.17	0.769
Tues.	28	0 29 32.64	9.086	3 11 33.7	+58.46	16 3.16	64.49	5 1.72	0.768
Wed.	29	0 33 10.72	9.088	3 34 54.8	58.29	16 2.89	64.49	4 43.30	0.766
Thur.	30	0 36 48.86	9.090	3 58 11.8	58.11	16 2.61	64.50	4 24.93	0.764
Frid.	31	0 40 27.06	9.094	4 21 24.3	57.92	16 2.34	64.52	4 6.63	0.760
Sat.	32	0 44 5.37	9.098	N. 4 44 32.0	+57.71	16 2.06	64.53	3 48.43	0.756

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.
 The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing;
 north declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.		
		Apparent Right Ascension.		Diff. for 1 Hour.	Apparent Declination.				Diff. for 1 Hour.	
		^h ^m ^s	^s		[°] ['] ["]					["]
Wed.	1	22 50 29.44	9.349	S. 7 23 0.4	+57.10	12 26.29	0.506	22 38 3.15		
Thur.	2	22 54 13.56	9.328	7 0 6.8	57.36	12 13.86	0.528	22 41 59.70		
Frid.	3	22 57 57.20	9.309	6 37 7.3	57.59	12 0.94	0.548	22 45 56.26		
Sat.	4	23 1 40.38	9.290	6 14 2.3	+57.82	11 47.57	0.566	22 49 52.81		
SUN.	5	23 5 23.13	9.272	5 50 52.1	58.02	11 33.77	0.584	22 53 49.36		
Mon.	6	23 9 5.46	9.256	5 27 37.1	58.22	11 19.54	0.601	22 57 45.92		
Tues.	7	23 12 47.40	9.240	5 4 17.7	+58.39	11 4.93	0.617	23 1 42.47		
Wed.	8	23 16 28.96	9.225	4 40 54.2	58.56	10 49.93	0.632	23 5 39.03		
Thur.	9	23 20 10.18	9.211	4 17 27.0	58.70	10 34.60	0.645	23 9 35.58		
Frid.	10	23 23 51.08	9.198	3 53 56.5	+58.84	10 18.95	0.659	23 13 32.13		
Sat.	11	23 27 31.66	9.185	3 30 22.9	58.95	10 2.97	0.672	23 17 28.69		
SUN.	12	23 31 11.95	9.173	3 6 46.8	59.05	9 46.71	0.683	23 21 25.24		
Mon.	13	23 34 51.97	9.162	2 43 8.4	+59.14	9 30.18	0.694	23 25 21.79		
Tues.	14	23 38 31.74	9.152	2 19 28.2	59.20	9 13.39	0.704	23 29 18.35		
Wed.	15	23 42 11.28	9.143	1 55 46.6	59.26	8 56.38	0.713	23 33 14.90		
Thur.	16	23 45 50.61	9.134	1 32 3.9	+59.29	8 39.15	0.722	23 37 11.46		
Frid.	17	23 49 29.73	9.126	1 8 20.5	59.31	8 21.72	0.730	23 41 8.01		
Sat.	18	23 53 8.67	9.119	0 44 36.8	59.31	8 4.11	0.738	23 45 4.56		
SUN.	19	23 56 47.44	9.112	S. 0 20 53.4	+59.30	7 46.32	0.744	23 49 1.12		
Mon.	20	0 0 26.06	9.107	N. 0 2 49.6	59.27	7 28.39	0.750	23 52 57.67		
Tues.	21	0 4 4.56	9.101	0 26 31.7	59.23	7 10.34	0.755	23 56 54.22		
Wed.	22	0 7 42.93	9.097	0 50 12.4	+59.16	6 52.17	0.759	0 0 50.78		
Thur.	23	0 11 21.22	9.094	1 13 51.5	59.09	6 33.89	0.763	0 4 47.33		
Frid.	24	0 14 59.42	9.091	1 37 28.5	58.99	6 15.54	0.766	0 8 43.88		
Sat.	25	0 18 37.57	9.089	2 1 3.1	+58.88	5 57.13	0.768	0 12 40.44		
SUN.	26	0 22 15.68	9.088	2 24 34.9	58.76	5 38.69	0.769	0 16 36.99		
Mon.	27	0 25 53.78	9.087	2 48 3.6	58.62	5 20.24	0.769	0 20 33.54		
Tues.	28	0 29 31.88	9.088	3 11 28.8	+58.47	5 1.78	0.768	0 24 30.10		
Wed.	29	0 33 10.01	9.090	3 34 50.2	58.31	4 43.36	0.766	0 28 26.65		
Thur.	30	0 36 48.19	9.092	3 58 7.5	58.13	4 24.99	0.764	0 32 23.20		
Frid.	31	0 40 26.44	9.096	4 21 20.3	57.94	4 6.68	0.761	0 36 19.76		
Sat.	32	0 44 4.79	9.100	N. 4 44 28.4	+57.73	3 48.48	0.756	0 40 16.31		

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
 The sign + prefixed to the hourly change of declination indicates that south declinations are decreasing; north declinations, increasing.

Diff. for 1 Hour,
 +9^m.8565.
 (Table III.)

AT GREENWICH MEAN NOON.

Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE			
		λ	λ'					
1	60	341° 10' 10.2	10' 10.0	150.34	+ 0.48	9.9962482	+45.1	^h 1 ^m 21 ^s 43.42
2	61	342 10 17.4	10 17.1	150.26	0.42	9.9963574	45.9	1 17 47.52
3	62	343 10 22.7	10 22.2	150.18	0.33	9.9964683	46.5	1 13 51.61
4	63	344 10 26.1	10 25.6	150.11	+ 0.22	9.9965808	+47.2	1 9 55.70
5	64	345 10 27.8	10 27.1	150.04	+ 0.10	9.9966949	47.8	1 5 59.80
6	65	346 10 27.8	10 27.0	149.96	— 0.03	9.9968104	48.4	1 2 3.88
7	66	347 10 26.1	10 25.2	149.89	— 0.16	9.9969272	+48.9	0 58 7.98
8	67	348 10 22.7	10 21.7	149.82	0.28	9.9970453	49.4	0 54 12.07
9	68	349 10 17.7	10 16.6	149.76	0.39	9.9971644	49.8	0 50 16.16
10	69	350 10 11.0	10 9.8	149.69	— 0.48	9.9972844	+50.1	0 46 20.26
11	70	351 10 2.7	10 1.3	149.62	0.55	9.9974051	50.4	0 42 24.34
12	71	352 9 52.7	9 51.2	149.55	0.59	9.9975264	50.6	0 38 28.44
13	72	353 9 40.9	9 39.3	149.47	— 0.60	9.9976481	+50.8	0 34 32.54
14	73	354 9 27.4	9 25.7	149.40	0.58	9.9977702	50.9	0 30 36.62
15	74	355 9 12.2	9 10.4	149.33	0.54	9.9978924	50.9	0 26 40.72
16	75	356 8 55.1	8 53.2	149.25	— 0.47	9.9980146	+50.9	0 22 44.80
17	76	357 8 36.1	8 34.1	149.17	0.37	9.9981367	50.8	0 18 48.90
18	77	358 8 15.1	8 13.0	149.08	0.25	9.9982586	50.8	0 14 52.99
19	78	359 7 51.9	7 49.7	148.99	— 0.12	9.9983805	+50.8	0 10 57.08
20	79	0 7 26.6	7 24.3	148.90	+ 0.01	9.9985022	50.7	0 7 1.18
21	80	1 6 59.1	6 56.7	148.81	0.14	9.9986238	50.6	0 3 5.27
22	81	2 6 29.4	6 26.9	148.71	+ 0.26	9.9987453	+50.6	23 55 13.45
23	82	3 5 57.5	5 54.9	148.62	0.37	9.9988668	50.6	23 51 17.55
24	83	4 5 23.3	5 20.5	148.52	0.45	9.9989883	50.6	23 47 21.64
25	84	5 4 46.7	4 43.8	148.42	+ 0.51	9.9991099	+50.7	23 43 25.73
26	85	6 4 7.7	4 4.7	148.32	0.55	9.9992318	50.9	23 39 29.82
27	86	7 3 26.3	3 23.2	148.23	0.56	9.9993541	51.0	23 35 33.92
28	87	8 2 42.7	2 39.5	148.14	+ 0.54	9.9994768	+51.2	23 31 38.00
29	88	9 1 56.9	1 53.6	148.05	0.49	9.9996000	51.4	23 27 42.10
30	89	10 1 8.9	1 5.5	147.95	0.41	9.9997237	51.6	23 23 46.20
31	90	11 0 18.7	0 15.2	147.86	0.30	9.9998479	51.9	23 19 50.28
32	91	11 59 26.4	59 22.8	147.78	+ 0.17	9.9999726	+52.1	23 15 54.38

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0^h.0.

Diff. for 1 Hour.
—9^m.8296.
(Table II.)

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S									
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.	
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.	
1	15' 37".4	15' 33".1	57' 13".6	-1".27	56' 58".0	-1".32	h m 11 47.8	m 1.96	d 12.8	
2	15 28.8	15 24.0	56 41.9	1.36	56 25.5	1.38	12 33.3	1.84	13.8	
3	15 20.0	15 15.3	56 8.9	1.37	55 52.5	1.35	13 16.3	1.75	14.8	
4	15 10.9	15 6.8	55 36.5	-1.30	55 21.2	-1.24	13 57.8	1.71	15.8	
5	15 2.9	14 59.3	55 6.8	1.15	54 53.7	1.03	14 39.1	1.72	16.8	
6	14 56.1	14 53.4	54 42.0	0.91	54 31.9	0.76	15 21.0	1.78	17.8	
7	14 51.1	14 49.5	54 23.8	-0.59	54 17.8	-0.41	16 4.6	1.86	18.8	
8	14 48.5	14 48.1	54 14.0	-0.21	54 12.7	-0.01	16 50.5	1.97	19.8	
9	14 48.4	14 49.4	54 13.7	+0.20	54 17.4	+0.41	17 38.9	2.07	20.8	
10	14 51.1	14 53.5	54 23.6	+0.63	54 32.6	+0.85	18 29.9	2.17	21.8	
11	14 56.7	15 0.4	54 44.1	1.05	54 57.9	1.25	19 22.7	2.22	22.8	
12	15 4.9	15 9.9	55 14.2	1.45	55 32.6	1.61	20 16.2	2.22	23.8	
13	15 15.4	15 21.4	55 52.9	+1.76	56 14.9	+1.88	21 9.1	2.18	24.8	
14	15 27.7	15 34.3	56 38.1	1.97	57 2.1	2.02	22 0.7	2.12	25.8	
15	15 40.9	15 47.5	57 26.5	2.03	57 50.8	2.00	22 50.8	2.05	26.8	
16	15 54.0	16 0.1	58 14.6	+1.93	58 37.1	+1.81	23 39.5	2.02	27.8	
17	16 5.8	16 11.0	58 58.1	1.66	59 16.9	1.46	δ		28.8	
18	16 15.4	16 19.0	59 33.1	1.23	59 46.4	0.98	0 27.9	2.02	0.3	
19	16 21.8	16 23.6	59 56.6	+0.71	60 3.5	+0.44	1 16.9	2.07	1.3	
20	16 24.6	16 24.7	60 7.1	+0.16	60 7.4	-0.10	2 7.7	2.17	2.3	
21	16 24.0	16 22.5	60 4.7	-0.34	59 59.2	0.56	3 1.5	2.31	3.3	
22	16 20.3	16 17.5	59 51.2	-0.76	59 41.0	-0.93	3 58.8	2.46	4.3	
23	16 14.2	16 10.7	59 29.0	1.05	59 15.8	1.15	4 59.2	2.56	5.3	
24	16 6.7	16 2.6	59 1.4	1.23	58 46.3	1.28	6 1.2	2.58	6.3	
25	15 58.4	15 54.0	58 30.7	-1.31	58 14.8	-1.33	7 2.4	2.50	7.3	
26	15 49.7	15 45.3	57 58.7	1.34	57 42.7	1.33	8 0.5	2.33	8.3	
27	15 41.0	15 36.7	57 26.9	1.31	57 11.2	1.30	8 54.3	2.15	9.3	
28	15 32.5	15 28.4	56 55.8	-1.28	56 40.6	-1.25	9 43.8	1.98	10.3	
29	15 24.4	15 20.4	56 25.8	1.23	56 11.2	1.20	10 29.5	1.84	11.3	
30	15 16.5	15 12.8	55 57.0	1.17	55 43.2	1.13	11 12.5	1.75	12.3	
31	15 9.1	15 5.6	55 29.9	1.09	55 17.0	1.04	11 54.0	1.71	13.3	
32	15 2.3	14 59.2	55 4.9	-0.98	54 53.4	-0.92	12 35.0	1.71	14.3	

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	^h 10 ^m 3 ^s 2.97	2.1375	N. 16° 49' 16.0"	12.883	0	^h 11 ^m 39 ^s 25.08	1.9033	N. 5° 33' 19.2"	14.803
1	10 5 11.03	2.1312	16 36 22.6	12.986	1	11 41 19.18	1.9009	5 18 30.7	14.813
2	10 7 18.71	2.1349	16 23 24.9	12.968	2	11 43 13.10	1.8971	5 3 41.6	14.892
3	10 9 26.02	2.1187	16 10 22.9	13.068	3	11 45 6.83	1.8940	4 48 52.0	14.830
4	10 11 32.96	2.1198	15 57 16.7	13.137	4	11 47 0.38	1.8911	4 34 2.0	14.838
5	10 13 39.53	2.1064	15 44 6.4	13.304	5	11 48 53.76	1.8889	4 19 11.5	14.844
6	10 15 45.73	2.1003	15 30 52.2	13.369	6	11 50 46.96	1.8853	4 4 20.7	14.848
7	10 17 51.57	2.0943	15 17 34.1	13.334	7	11 52 39.99	1.8896	3 49 29.7	14.859
8	10 19 57.05	2.0883	15 4 12.1	13.397	8	11 54 32.87	1.8900	3 34 38.5	14.854
9	10 22 2.17	2.0894	14 50 46.4	13.458	9	11 56 25.59	1.8774	3 19 47.2	14.855
10	10 24 6.94	2.0766	14 37 17.1	13.518	10	11 58 18.16	1.8749	3 4 55.9	14.856
11	10 26 11.36	2.0708	14 23 44.2	13.577	11	12 0 10.58	1.8794	2 50 4.5	14.856
12	10 28 15.44	2.0651	14 10 7.9	13.633	12	12 2 2.85	1.8700	2 35 13.2	14.854
13	10 30 19.17	2.0594	13 56 28.2	13.689	13	12 3 54.98	1.8678	2 20 22.1	14.851
14	10 32 22.57	2.0538	13 42 45.2	13.743	14	12 5 46.98	1.8656	2 5 31.1	14.848
15	10 34 25.63	2.0489	13 28 59.0	13.797	15	12 7 38.85	1.8634	1 50 40.3	14.844
16	10 36 28.36	2.0428	13 15 9.6	13.848	16	12 9 30.59	1.8613	1 35 49.8	14.838
17	10 38 30.77	2.0374	13 1 17.2	13.897	17	12 11 22.21	1.8599	1 20 59.7	14.832
18	10 40 32.85	2.0390	12 47 21.9	13.946	18	12 13 13.70	1.8573	1 6 10.0	14.894
19	10 42 34.61	2.0267	12 33 23.7	13.993	19	12 15 5.08	1.8555	0 51 20.8	14.816
20	10 44 36.06	2.0215	12 19 22.7	14.039	20	12 16 56.36	1.8537	0 36 32.1	14.897
21	10 46 37.19	2.0163	12 5 19.0	14.083	21	12 18 47.53	1.8590	0 21 44.0	14.796
22	10 48 38.02	2.0119	11 51 12.7	14.127	22	12 20 38.60	1.8504	N. 0 6 56.6	14.784
23	10 50 38.54	2.0062	N. 11 37 3.8	14.169	23	12 22 29.58	1.8498	S. 0 7 50.1	14.772
THURSDAY 2.					SATURDAY 4.				
0	10 52 38.76	2.0019	N. 11 22 52.4	14.210	0	12 24 20.46	1.8472	S. 0 22 36.1	14.760
1	10 54 38.68	1.9963	11 8 38.6	14.249	1	12 26 11.25	1.8458	0 37 21.3	14.746
2	10 56 38.31	1.9915	10 54 22.5	14.286	2	12 28 1.96	1.8445	0 52 5.6	14.730
3	10 58 37.66	1.9868	10 40 4.3	14.322	3	12 29 52.59	1.8433	1 6 48.9	14.713
4	11 0 36.73	1.9822	10 25 43.9	14.358	4	12 31 43.15	1.8421	1 21 31.2	14.697
5	11 2 35.52	1.9775	10 11 21.4	14.393	5	12 33 33.64	1.8409	1 36 12.5	14.680
6	11 4 34.03	1.9729	9 56 56.9	14.424	6	12 35 24.06	1.8398	1 50 52.8	14.662
7	11 6 32.27	1.9685	9 42 30.5	14.456	7	12 37 14.42	1.8388	2 5 32.0	14.642
8	11 8 30.25	1.9641	9 28 2.2	14.486	8	12 39 4.72	1.8379	2 20 9.9	14.621
9	11 10 27.96	1.9597	9 13 52.2	14.514	9	12 40 54.97	1.8371	2 34 46.5	14.599
10	11 12 25.41	1.9554	8 59 0.5	14.542	10	12 42 45.17	1.8363	2 49 21.8	14.577
11	11 14 22.61	1.9519	8 44 27.2	14.568	11	12 44 35.32	1.8355	3 3 55.8	14.555
12	11 16 19.56	1.9471	8 29 52.3	14.594	12	12 46 25.43	1.8349	3 18 28.4	14.532
13	11 18 16.26	1.9430	8 15 15.9	14.618	13	12 48 15.51	1.8344	3 32 59.6	14.507
14	11 20 12.72	1.9391	8 0 38.1	14.640	14	12 50 5.56	1.8338	3 47 29.2	14.480
15	11 22 8.95	1.9352	7 45 59.1	14.661	15	12 51 55.57	1.8333	4 1 57.2	14.453
16	11 24 4.95	1.9314	7 31 18.8	14.682	16	12 53 45.56	1.8330	4 16 23.6	14.426
17	11 26 0.72	1.9276	7 16 37.3	14.702	17	12 55 35.53	1.8327	4 30 48.4	14.399
18	11 27 56.26	1.9239	7 1 54.6	14.720	18	12 57 25.48	1.8324	4 45 11.5	14.371
19	11 29 51.59	1.9203	6 47 10.9	14.737	19	12 59 15.42	1.8322	4 59 32.9	14.341
20	11 31 46.70	1.9167	6 32 26.2	14.752	20	13 1 5.35	1.8322	5 13 52.4	14.309
21	11 33 41.60	1.9133	6 17 40.7	14.766	21	13 2 55.28	1.8322	5 28 10.0	14.278
22	11 35 36.30	1.9099	6 2 54.3	14.780	22	13 4 45.21	1.8322	5 42 25.7	14.246
23	11 37 30.79	1.9065	5 48 7.1	14.792	23	13 6 35.15	1.8322	5 56 39.5	14.213
24	11 39 25.08	1.9033	N. 5 33 19.2	14.803	24	13 8 25.09	1.8325	S. 6 10 51.3	14.179

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	13 8 25.09	1.8395	S. 6° 10' 51.3	14.179	0	14 37 46.73	1.9134	S. 16° 37' 40.6	11.647
1	13 10 15.05	1.8397	6 25 1.0	14.144	1	14 39 41.63	1.9165	16 49 17.3	11.577
2	13 12 5.02	1.8330	6 39 8.6	14.109	2	14 41 36.71	1.9195	17 0 49.8	11.505
3	13 13 55.01	1.8333	6 53 14.1	14.073	3	14 43 31.97	1.9226	17 12 17.9	11.432
4	13 15 45.02	1.8338	7 7 17.4	14.036	4	14 45 27.42	1.9258	17 23 41.6	11.359
5	13 17 35.07	1.8344	7 21 18.4	13.997	5	14 47 23.07	1.9291	17 35 0.9	11.285
6	13 19 25.15	1.8349	7 35 17.1	13.958	6	14 49 18.91	1.9324	17 46 15.8	11.210
7	13 21 15.26	1.8355	7 49 13.4	13.919	7	14 51 14.95	1.9357	17 57 26.1	11.134
8	13 23 5.41	1.8363	8 3 7.4	13.880	8	14 53 11.19	1.9389	18 8 31.8	11.058
9	13 24 55.61	1.8371	8 16 59.0	13.839	9	14 55 7.62	1.9422	18 19 33.0	10.981
10	13 26 45.86	1.8379	8 30 48.1	13.797	10	14 57 4.26	1.9457	18 30 29.5	10.903
11	13 28 36.16	1.8388	8 44 34.6	13.753	11	14 59 1.11	1.9492	18 41 21.3	10.824
12	13 30 26.51	1.8397	8 58 18.5	13.710	12	15 0 58.16	1.9527	18 52 8.4	10.745
13	13 32 16.92	1.8407	9 11 59.8	13.666	13	15 2 55.43	1.9564	19 2 50.7	10.665
14	13 34 7.40	1.8418	9 25 38.4	13.622	14	15 4 52.91	1.9602	19 13 28.2	10.584
15	13 35 57.94	1.8429	9 39 14.4	13.577	15	15 6 50.61	1.9634	19 24 0.8	10.502
16	13 37 48.55	1.8441	9 52 47.6	13.530	16	15 8 48.52	1.9671	19 34 28.4	10.419
17	13 39 39.24	1.8454	10 6 18.0	13.489	17	15 10 46.66	1.9708	19 44 51.1	10.336
18	13 41 30.00	1.8467	10 19 45.5	13.434	18	15 12 45.02	1.9746	19 55 8.8	10.252
19	13 43 20.84	1.8481	10 33 10.1	13.386	19	15 14 43.61	1.9783	20 5 21.4	10.167
20	13 45 11.77	1.8497	10 46 31.8	13.337	20	15 16 42.42	1.9820	20 15 28.9	10.082
21	13 47 2.80	1.8513	10 59 50.5	13.286	21	15 18 41.45	1.9858	20 25 31.3	9.997
22	13 48 53.92	1.8527	11 13 6.1	13.235	22	15 20 40.71	1.9897	20 35 28.5	9.909
23	13 50 45.13	1.8543	S. 11° 26' 18.7	13.184	23	15 22 40.21	1.9936	S. 20° 45' 20.4	9.821
MONDAY 6.					WEDNESDAY 8.				
0	13 52 36.44	1.8561	S. 11° 39' 28.2	13.132	0	15 24 39.94	1.9975	S. 20° 55' 7.0	9.739
1	13 54 27.86	1.8578	11 52 34.5	13.078	1	15 26 39.91	2.0014	21 4 48.3	9.643
2	13 56 19.38	1.8596	12 5 37.6	13.024	2	15 28 40.11	2.0053	21 14 24.2	9.553
3	13 58 11.01	1.8615	12 18 37.4	12.969	3	15 30 40.55	2.0093	21 23 54.7	9.463
4	14 0 2.76	1.8634	12 31 33.9	12.913	4	15 32 41.23	2.0133	21 33 19.7	9.371
5	14 1 54.62	1.8653	12 44 27.0	12.857	5	15 34 42.15	2.0174	21 42 39.2	9.278
6	14 3 46.60	1.8674	12 57 16.8	12.801	6	15 36 43.32	2.0215	21 51 53.1	9.185
7	14 5 38.71	1.8696	13 10 3.1	12.743	7	15 38 44.73	2.0255	22 1 1.4	9.091
8	14 7 30.95	1.8717	13 22 45.9	12.684	8	15 40 46.38	2.0296	22 10 4.0	8.997
9	14 9 23.31	1.8739	13 35 25.2	12.625	9	15 42 48.28	2.0337	22 19 1.0	8.902
10	14 11 15.81	1.8762	13 48 0.9	12.565	10	15 44 50.43	2.0379	22 27 52.2	8.805
11	14 13 8.45	1.8785	14 0 33.0	12.505	11	15 46 52.83	2.0420	22 36 37.6	8.708
12	14 15 1.23	1.8809	14 13 1.5	12.443	12	15 48 55.47	2.0461	22 45 17.2	8.611
13	14 16 54.16	1.8833	14 25 26.2	12.380	13	15 50 58.36	2.0503	22 53 50.9	8.513
14	14 18 47.23	1.8857	14 37 47.1	12.318	14	15 53 1.51	2.0546	23 2 18.6	8.419
15	14 20 40.45	1.8883	14 50 4.3	12.255	15	15 55 4.91	2.0587	23 10 40.3	8.319
16	14 22 33.83	1.8909	15 2 17.7	12.190	16	15 57 8.56	2.0629	23 18 56.0	8.219
17	14 24 27.36	1.8935	15 14 27.1	12.124	17	15 59 12.46	2.0673	23 27 5.7	8.110
18	14 26 21.05	1.8962	15 26 32.6	12.058	18	16 1 16.62	2.0714	23 35 9.2	8.007
19	14 28 14.91	1.8990	15 38 34.1	11.992	19	16 3 21.03	2.0756	23 43 6.5	7.903
20	14 30 8.93	1.9018	15 50 31.6	11.925	20	16 5 25.69	2.0798	23 50 57.6	7.800
21	14 32 3.12	1.9046	16 2 25.1	11.857	21	16 7 30.61	2.0841	23 58 42.5	7.695
22	14 33 57.48	1.9075	16 14 14.5	11.788	22	16 9 35.78	2.0883	24 6 21.0	7.589
23	14 35 52.02	1.9104	16 25 59.7	11.718	23	16 11 41.21	2.0926	24 13 53.2	7.483
24	14 37 46.73	1.9134	S. 16° 37' 40.6	11.647	24	16 13 46.89	2.0968	S. 24° 21' 19.0	7.377

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	16 13 46.89	2.0968	S. 24° 21' 19.0"	7.377	0	17 58 57.99	2.2719	S. 27° 58' 11.6"	1.404
1	16 15 52.83	2.1011	24 28 38.4	7.968	1	18 1 14.38	2.2743	27 59 31.7	1.985
2	16 17 59.02	2.1053	24 35 51.2	7.159	2	18 3 30.91	2.2768	28 0 43.4	1.195
3	16 20 5.46	2.1095	24 42 57.5	7.050	3	18 5 47.59	2.2792	28 1 46.7	0.985
4	16 22 12.16	2.1137	24 49 57.2	6.940	4	18 8 4.41	2.2814	28 2 41.6	0.844
5	16 24 19.11	2.1180	24 56 50.3	6.830	5	18 10 21.36	2.2836	28 3 28.0	0.703
6	16 26 26.32	2.1222	25 3 36.8	6.719	6	18 12 38.44	2.2857	28 4 6.0	0.562
7	16 28 33.78	2.1264	25 10 16.6	6.606	7	18 14 55.65	2.2879	28 4 35.5	0.420
8	16 30 41.49	2.1306	25 16 49.5	6.492	8	18 17 12.98	2.2897	28 4 56.4	0.278
9	16 32 49.45	2.1348	25 23 15.6	6.378	9	18 19 30.42	2.2916	28 5 8.8	- 0.135
10	16 34 57.66	2.1389	25 29 34.9	6.264	10	18 21 47.97	2.2934	28 5 12.6	+ 0.007
11	16 37 6.12	2.1431	25 35 47.3	6.148	11	18 24 5.63	2.2952	28 5 7.9	0.150
12	16 39 14.83	2.1473	25 41 52.7	6.032	12	18 26 23.40	2.2970	28 4 54.6	0.294
13	16 41 23.79	2.1513	25 47 51.1	5.915	13	18 28 41.27	2.2986	28 4 32.6	0.438
14	16 43 32.99	2.1554	25 53 42.5	5.798	14	18 30 59.23	2.3000	28 4 2.0	0.582
15	16 45 42.44	2.1595	25 59 26.9	5.681	15	18 33 17.27	2.3014	28 3 22.8	0.726
16	16 47 52.13	2.1635	26 5 4.2	5.562	16	18 35 35.40	2.3028	28 2 34.9	0.871
17	16 50 2.06	2.1675	26 10 34.3	5.441	17	18 37 53.61	2.3042	28 1 38.3	1.017
18	16 52 12.23	2.1715	26 15 57.1	5.320	18	18 40 11.90	2.3054	28 0 32.9	1.162
19	16 54 22.64	2.1755	26 21 12.7	5.199	19	18 42 30.26	2.3065	27 59 18.8	1.307
20	16 56 33.29	2.1794	26 26 21.0	5.077	20	18 44 48.68	2.3076	27 57 56.0	1.452
21	16 58 44.17	2.1833	26 31 22.0	4.955	21	18 47 7.17	2.3087	27 56 24.5	1.598
22	17 0 55.28	2.1872	26 36 15.6	4.832	22	18 49 25.72	2.3098	27 54 44.2	1.744
23	17 3 6.63	2.1911	S. 26° 41' 1.8"	4.707	23	18 51 44.31	2.3103	S. 27° 52' 55.2"	1.890
FRIDAY 10.					SUNDAY 12.				
0	17 5 18.21	2.1949	S. 26° 45' 40.5"	4.582	0	18 54 2.95	2.3110	S. 27° 50' 57.4"	2.037
1	17 7 30.01	2.1986	26 50 11.7	4.457	1	18 56 21.63	2.3117	27 48 50.8	2.183
2	17 9 42.04	2.2023	26 54 35.4	4.332	2	18 58 40.35	2.3122	27 46 35.4	2.330
3	17 11 54.29	2.2060	26 58 51.5	4.205	3	19 0 59.10	2.3127	27 44 11.2	2.477
4	17 14 6.76	2.2097	27 3 0.0	4.077	4	19 3 17.88	2.3132	27 41 38.2	2.623
5	17 16 19.45	2.2133	27 7 0.8	3.949	5	19 5 36.68	2.3136	27 38 56.4	2.770
6	17 18 32.36	2.2169	27 10 53.9	3.821	6	19 7 55.51	2.3139	27 36 5.8	2.917
7	17 20 45.48	2.2204	27 14 39.3	3.692	7	19 10 14.35	2.3140	27 33 6.4	3.063
8	17 22 58.81	2.2238	27 18 16.9	3.562	8	19 12 33.19	2.3141	27 29 58.2	3.211
9	17 25 12.34	2.2273	27 21 46.7	3.432	9	19 14 52.04	2.3142	27 26 41.1	3.358
10	17 27 26.08	2.2307	27 25 8.7	3.300	10	19 17 10.89	2.3141	27 23 15.2	3.505
11	17 29 40.02	2.2340	27 28 22.7	3.168	11	19 19 29.73	2.3139	27 19 40.5	3.652
12	17 31 54.16	2.2372	27 31 28.8	3.035	12	19 21 48.56	2.3137	27 15 57.0	3.798
13	17 34 8.49	2.2404	27 34 26.9	2.903	13	19 24 7.38	2.3135	27 12 4.7	3.945
14	17 36 23.01	2.2436	27 37 17.1	2.770	14	19 26 26.18	2.3132	27 8 3.6	4.092
15	17 38 37.72	2.2467	27 39 59.3	2.636	15	19 28 44.96	2.3128	27 3 53.7	4.238
16	17 40 52.62	2.2498	27 42 33.4	2.500	16	19 31 3.71	2.3123	26 59 35.0	4.385
17	17 43 7.70	2.2528	27 44 59.3	2.364	17	19 33 22.43	2.3117	26 55 7.5	4.531
18	17 45 22.95	2.2557	27 47 17.1	2.229	18	19 35 41.11	2.3110	26 50 31.3	4.677
19	17 47 38.38	2.2586	27 49 26.8	2.093	19	19 37 59.75	2.3103	26 45 46.3	4.823
20	17 49 53.98	2.2614	27 51 28.3	1.956	20	19 40 18.34	2.3095	26 40 52.6	4.968
21	17 52 9.74	2.2641	27 53 21.5	1.818	21	19 42 36.89	2.3087	26 35 50.1	5.114
22	17 54 25.67	2.2667	27 55 6.5	1.681	22	19 44 55.39	2.3078	26 30 38.9	5.259
23	17 56 41.75	2.2693	27 56 43.2	1.543	23	19 47 13.83	2.3068	26 25 19.0	5.404
24	17 58 57.99	2.2719	S. 27° 58' 11.6"	1.404	24	19 49 32.20	2.3057	S. 26° 19' 50.4"	5.549

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	^h 19 ^m 49 ^s 32.20	2.3057	S. 26° 19' 50.4"	5.549	0	^h 21 ^m 38 ^s 3.35	2.2040	S. 19° 15' 12.9"	11.897
1	19 51 50.51	2.3046	26 14 13.1	5.694	1	21 40 15.51	2.2014	19 3 15.7	12.010
2	19 54 8.75	2.3034	26 8 27.1	5.838	2	21 42 27.52	2.1989	18 51 11.7	12.123
3	19 56 26.92	2.3022	26 2 32.5	5.982	3	21 44 39.38	2.1964	18 39 0.9	12.236
4	19 58 45.01	2.3009	25 56 29.3	6.125	4	21 46 51.09	2.1938	18 26 43.4	12.346
5	20 1 3.02	2.2995	25 50 17.5	6.269	5	21 49 2.64	2.1913	18 14 19.4	12.454
6	20 3 20.95	2.2981	25 43 57.0	6.419	6	21 51 14.04	2.1888	18 1 48.9	12.563
7	20 5 38.79	2.2966	25 37 28.0	6.555	7	21 53 25.29	2.1863	17 49 11.9	12.671
8	20 7 56.54	2.2951	25 30 50.4	6.697	8	21 55 36.40	2.1839	17 36 28.4	12.778
9	20 10 14.20	2.2935	25 24 4.3	6.839	9	21 57 47.36	2.1814	17 23 38.5	12.884
10	20 12 31.76	2.2918	25 17 9.7	6.981	10	21 59 58.17	2.1790	17 10 42.3	12.988
11	20 14 49.22	2.2901	25 10 6.6	7.122	11	22 2 8.84	2.1766	16 57 39.9	13.092
12	20 17 6.57	2.2883	25 2 55.1	7.262	12	22 4 19.36	2.1742	16 44 31.3	13.194
13	20 19 23.82	2.2866	24 55 35.1	7.402	13	22 6 29.74	2.1719	16 31 16.6	13.295
14	20 21 40.96	2.2847	24 48 6.8	7.542	14	22 8 39.98	2.1696	16 17 55.9	13.395
15	20 23 57.98	2.2828	24 40 30.1	7.681	15	22 10 50.09	2.1673	16 4 29.2	13.494
16	20 26 14.89	2.2808	24 32 45.1	7.819	16	22 13 0.06	2.1650	15 50 56.6	13.592
17	20 28 31.68	2.2788	24 24 51.8	7.958	17	22 15 9.89	2.1627	15 37 18.2	13.688
18	20 30 48.35	2.2768	24 16 50.2	8.096	18	22 17 19.58	2.1604	15 23 34.1	13.783
19	20 33 4.90	2.2747	24 8 40.3	8.232	19	22 19 29.14	2.1583	15 9 44.3	13.878
20	20 35 21.32	2.2726	24 0 22.3	8.368	20	22 21 38.58	2.1562	14 55 48.8	13.972
21	20 37 37.61	2.2704	23 51 56.1	8.504	21	22 23 47.89	2.1542	14 41 47.7	14.063
22	20 39 53.77	2.2683	23 43 21.8	8.639	22	22 25 57.08	2.1521	14 27 41.2	14.153
23	20 42 9.80	2.2661	S. 23° 34' 39.4"	8.774	23	22 28 6.14	2.1500	S. 14° 13' 29.3"	14.243
TUESDAY 14.					THURSDAY 16.				
0	20 44 25.70	2.2638	S. 23° 25' 48.9"	8.908	0	22 30 15.08	2.1480	S. 13° 59' 12.0"	14.332
1	20 46 41.46	2.2615	23 16 50.4	9.048	1	22 32 23.90	2.1461	13 44 49.5	14.419
2	20 48 57.08	2.2592	23 7 43.9	9.174	2	22 34 32.61	2.1442	13 30 21.8	14.505
3	20 51 12.57	2.2569	22 58 29.5	9.306	3	22 36 41.20	2.1423	13 15 48.9	14.590
4	20 53 27.91	2.2545	22 49 7.2	9.437	4	22 38 49.68	2.1405	13 1 11.0	14.673
5	20 55 43.11	2.2521	22 39 37.1	9.568	5	22 40 58.06	2.1387	12 46 28.2	14.754
6	20 57 58.16	2.2497	22 29 59.1	9.698	6	22 43 6.33	2.1370	12 31 40.5	14.835
7	21 0 13.07	2.2473	22 20 13.3	9.827	7	22 45 14.50	2.1353	12 16 48.0	14.915
8	21 2 27.83	2.2448	22 10 19.8	9.955	8	22 47 22.57	2.1336	12 1 50.7	14.993
9	21 4 42.44	2.2423	22 0 18.7	10.083	9	22 49 30.54	2.1320	11 46 48.8	15.070
10	21 6 56.91	2.2398	21 50 9.9	10.210	10	22 51 38.41	2.1305	11 31 42.3	15.146
11	21 9 11.22	2.2373	21 39 53.5	10.336	11	22 53 46.20	2.1291	11 16 31.3	15.220
12	21 11 25.38	2.2347	21 29 29.6	10.461	12	22 55 53.90	2.1276	11 1 15.9	15.293
13	21 13 39.39	2.2322	21 18 58.2	10.586	13	22 58 1.51	2.1262	10 45 56.1	15.365
14	21 15 53.25	2.2297	21 8 19.3	10.709	14	23 0 9.04	2.1249	10 30 32.1	15.434
15	21 18 6.95	2.2271	20 57 33.1	10.832	15	23 2 16.50	2.1236	10 15 4.0	15.503
16	21 20 20.50	2.2246	20 46 39.5	10.954	16	23 4 23.88	2.1224	9 59 31.8	15.571
17	21 22 33.90	2.2220	20 35 38.6	11.075	17	23 6 31.19	2.1213	9 43 55.5	15.637
18	21 24 47.14	2.2194	20 24 30.5	11.195	18	23 8 38.44	2.1203	9 28 15.3	15.702
19	21 27 0.23	2.2168	20 13 15.2	11.314	19	23 10 45.62	2.1192	9 12 31.2	15.766
20	21 29 13.16	2.2142	20 1 52.8	11.432	20	23 12 52.74	2.1182	8 56 43.4	15.827
21	21 31 25.94	2.2117	19 50 23.3	11.550	21	23 14 59.80	2.1172	8 40 52.0	15.887
22	21 33 38.56	2.2091	19 38 46.8	11.667	22	23 17 6.80	2.1163	8 24 57.0	15.947
23	21 35 51.03	2.2066	19 27 3.3	11.782	23	23 19 13.76	2.1154	8 8 58.4	16.005
24	21 38 3.35	2.2040	S. 19° 15' 12.9"	11.897	24	23 21 20.67	2.1149	S. 7° 52' 56.4"	16.061

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	h m s	s	S. ° ' "	"	0	h m s	s	N. ° ' "	"
1	23 21 20.67	2.1149	7 52 56.4	16.061	1	1 3 19.81	2.1632	5 33 15.2	16.900
2	23 23 27.54	2.1142	7 36 51.1	16.115	2	1 5 29.69	2.1661	5 50 8.5	16.875
3	23 25 34.37	2.1135	7 20 42.6	16.168	3	1 7 39.74	2.1689	6 7 0.2	16.848
4	23 27 41.16	2.1129	7 4 30.9	16.221	4	1 9 49.96	2.1719	6 23 50.3	16.821
5	23 29 47.92	2.1125	6 48 16.1	16.271	5	1 12 0.37	2.1751	6 40 38.7	16.792
6	23 31 54.66	2.1122	6 31 58.4	16.319	6	1 14 10.97	2.1783	6 57 25.3	16.760
7	23 34 1.38	2.1118	6 15 37.8	16.367	7	1 16 21.76	2.1815	7 14 9.9	16.727
8	23 36 8.08	2.1115	5 59 14.3	16.413	8	1 18 32.75	2.1848	7 30 52.5	16.692
9	23 38 14.76	2.1112	5 42 48.2	16.457	9	1 20 43.94	2.1882	7 47 32.9	16.654
10	23 40 21.42	2.1110	5 26 19.5	16.499	10	1 22 55.33	2.1916	8 4 11.0	16.615
11	23 42 28.08	2.1110	5 9 48.3	16.541	11	1 25 6.93	2.1952	8 20 46.7	16.575
12	23 44 34.74	2.1111	4 53 14.6	16.581	12	1 27 18.75	2.1988	8 37 20.0	16.533
13	23 46 41.41	2.1112	4 36 38.6	16.618	13	1 29 30.79	2.2025	8 53 50.7	16.489
14	23 48 48.08	2.1113	4 20 0.4	16.655	14	1 31 43.05	2.2063	9 10 18.7	16.442
15	23 50 54.76	2.1114	4 3 20.0	16.691	15	1 33 55.54	2.2100	9 26 43.8	16.394
16	23 53 1.45	2.1117	3 46 37.5	16.724	16	1 36 8.25	2.2138	9 43 6.0	16.344
17	23 55 8.16	2.1121	3 29 53.1	16.756	17	1 38 21.20	2.2178	9 59 25.1	16.292
18	23 57 14.90	2.1125	3 13 6.8	16.787	18	1 40 34.39	2.2219	10 15 41.1	16.239
19	23 59 21.66	2.1129	2 56 18.7	16.816	19	1 42 47.83	2.2260	10 31 53.8	16.183
20	0 1 28.45	2.1135	2 39 28.9	16.843	20	1 45 1.51	2.2302	10 48 3.1	16.126
21	0 3 35.28	2.1142	2 22 37.6	16.868	21	1 47 15.45	2.2344	11 4 8.9	16.066
22	0 5 42.16	2.1150	2 5 44.8	16.892	22	1 49 29.64	2.2387	11 20 11.1	16.006
23	0 7 49.08	2.1158	1 48 50.6	16.914	23	1 51 44.09	2.2430	11 36 9.6	15.942
24	0 9 56.05	2.1166	1 31 55.1	16.934	24	1 53 58.80	2.2474	11 52 4.3	15.878
SATURDAY 18.					MONDAY 20.				
0	0 12 3.07	2.1175	S. 1 14 58.5	16.953	0	1 56 13.78	2.2519	N. 12 7 55.0	15.812
1	0 14 10.15	2.1185	0 58 0.8	16.971	1	1 58 29.03	2.2564	12 23 41.7	15.743
2	0 16 17.29	2.1196	0 41 2.0	16.987	2	2 0 44.55	2.2610	12 39 24.2	15.672
3	0 18 24.50	2.1208	0 24 2.3	17.001	3	2 3 0.35	2.2657	12 55 2.4	15.600
4	0 20 31.79	2.1221	S. 0 7 1.9	17.012	4	2 5 16.43	2.2704	13 10 36.2	15.528
5	0 22 39.15	2.1233	N. 0 9 59.2	17.023	5	2 7 32.80	2.2751	13 26 5.5	15.456
6	0 24 46.59	2.1247	0 27 0.9	17.032	6	2 9 49.45	2.2799	13 41 30.2	15.379
7	0 26 54.11	2.1262	0 44 3.1	17.040	7	2 12 6.39	2.2848	13 56 50.2	15.299
8	0 29 1.73	2.1278	1 1 5.7	17.045	8	2 14 23.63	2.2897	14 12 5.3	15.216
9	0 31 9.45	2.1295	1 18 8.5	17.048	9	2 16 41.16	2.2947	14 27 15.4	15.127
10	0 33 17.27	2.1312	1 35 11.5	17.051	10	2 18 58.99	2.2997	14 42 20.5	15.042
11	0 35 25.19	2.1329	1 52 14.6	17.053	11	2 21 17.13	2.3048	14 57 20.4	14.954
12	0 37 33.22	2.1347	2 9 17.8	17.055	12	2 23 35.57	2.3099	15 12 15.0	14.865
13	0 39 41.36	2.1367	2 26 20.8	17.048	13	2 25 54.32	2.3151	15 27 4.2	14.774
14	0 41 49.62	2.1388	2 43 23.5	17.043	14	2 28 13.38	2.3203	15 41 47.9	14.681
15	0 43 58.01	2.1409	3 0 25.9	17.037	15	2 30 32.75	2.3255	15 56 25.9	14.586
16	0 46 6.53	2.1431	3 17 27.9	17.028	16	2 32 52.44	2.3307	16 10 58.2	14.490
17	0 48 15.18	2.1453	3 34 29.3	17.018	17	2 35 12.44	2.3360	16 25 24.7	14.392
18	0 50 23.96	2.1475	3 51 30.1	17.007	18	2 37 32.76	2.3413	16 39 45.2	14.291
19	0 52 32.88	2.1499	4 8 30.1	16.993	19	2 39 53.40	2.3467	16 53 59.6	14.188
20	0 54 41.95	2.1525	4 25 29.3	16.978	20	2 42 14.37	2.3522	17 8 7.8	14.085
21	0 56 51.18	2.1551	4 42 27.5	16.961	21	2 44 35.66	2.3576	17 22 9.8	13.979
22	0 59 0.56	2.1577	4 59 24.6	16.943	22	2 46 57.28	2.3631	17 36 5.3	13.871
23	1 1 10.10	2.1604	5 16 20.5	16.922	23	2 49 19.23	2.3685	17 49 54.3	13.762
24	1 3 19.81	2.1632	N. 5 33 15.2	16.900	24	2 51 41.50	2.3739	N. 18 3 36.7	13.650

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	^h 2 ^m 51 ^s 41.50	2.3739	N. 18° 3' 36.7"	13.650	0	^h 4 ^m 51 ^s 45.40	2.6102	N. 26° 18' 53.7"	6.495
1	2 54 4.10	2.3795	18 17 12.3	13.537	1	4 54 22.11	2.6132	26 25 13.8	6.344
2	2 56 27.04	2.3851	18 30 41.1	13.499	2	4 56 58.99	2.6161	26 31 23.0	6.062
3	2 58 50.31	2.3907	18 44 3.0	13.306	3	4 59 36.04	2.6189	26 37 21.2	5.878
4	3 1 13.92	2.3969	18 57 17.8	13.187	4	5 2 13.26	2.6217	26 43 8.4	5.694
5	3 3 37.86	2.4017	19 10 25.5	13.067	5	5 4 50.65	2.6244	26 48 44.5	5.509
6	3 6 2.13	2.4073	19 23 25.9	12.945	6	5 7 28.19	2.6268	26 54 9.5	5.324
7	3 8 26.74	2.4199	19 36 18.9	12.821	7	5 10 5.87	2.6292	26 59 23.4	5.138
8	3 10 51.68	2.4185	19 49 4.4	12.696	8	5 12 43.69	2.6313	27 4 26.1	4.951
9	3 13 16.96	2.4241	20 1 42.4	12.569	9	5 15 21.63	2.6333	27 9 17.6	4.764
10	3 15 42.57	2.4297	20 14 12.7	12.440	10	5 17 59.69	2.6352	27 13 57.8	4.577
11	3 18 8.52	2.4353	20 26 35.2	12.308	11	5 20 37.86	2.6370	27 18 26.8	4.389
12	3 20 34.80	2.4408	20 38 49.7	12.175	12	5 23 16.13	2.6387	27 22 44.5	4.200
13	3 23 1.42	2.4464	20 50 56.2	12.043	13	5 25 54.50	2.6402	27 26 50.8	4.011
14	3 25 28.37	2.4519	21 2 54.7	11.907	14	5 28 32.95	2.6414	27 30 45.8	3.822
15	3 27 55.65	2.4575	21 14 45.0	11.769	15	5 31 11.47	2.6426	27 34 29.4	3.632
16	3 30 23.27	2.4630	21 26 27.0	11.630	16	5 33 50.06	2.6436	27 38 1.6	3.442
17	3 32 51.21	2.4684	21 38 0.6	11.489	17	5 36 28.70	2.6444	27 41 22.4	3.251
18	3 35 19.48	2.4739	21 49 25.7	11.347	18	5 39 7.39	2.6452	27 44 31.7	3.060
19	3 37 48.08	2.4793	22 0 42.2	11.203	19	5 41 46.12	2.6457	27 47 29.6	2.869
20	3 40 17.00	2.4848	22 11 50.0	11.057	20	5 44 24.88	2.6461	27 50 16.0	2.678
21	3 42 46.25	2.4902	22 22 49.1	10.911	21	5 47 3.65	2.6463	27 52 51.0	2.487
22	3 45 15.82	2.4955	22 33 39.3	10.763	22	5 49 42.43	2.6464	27 55 14.5	2.296
23	3 47 45.71	2.5008	N. 22° 44' 20.5"	10.611	23	5 52 21.22	2.6464	N. 27° 57' 26.5"	2.105
WEDNESDAY 22.					FRIDAY 24.				
0	3 50 15.91	2.5060	N. 22° 54' 52.6"	10.459	0	5 55 0.00	2.6462	N. 27° 59' 27.1"	1.914
1	3 52 46.43	2.5112	23 5 15.6	10.307	1	5 57 38.76	2.6458	28 1 16.2	1.729
2	3 55 17.25	2.5163	23 15 29.4	10.152	2	6 0 17.49	2.6452	28 2 53.8	1.531
3	3 57 48.38	2.5214	23 25 33.8	9.995	3	6 2 56.18	2.6444	28 4 19.9	1.340
4	4 0 19.82	2.5264	23 35 28.8	9.838	4	6 5 34.82	2.6436	28 5 34.6	1.149
5	4 2 51.55	2.5313	23 45 14.4	9.680	5	6 8 13.41	2.6426	28 6 37.8	0.958
6	4 5 23.58	2.5362	23 54 50.4	9.519	6	6 10 51.93	2.6414	28 7 29.6	0.768
7	4 7 55.90	2.5411	24 4 16.7	9.357	7	6 13 30.38	2.6401	28 8 9.9	0.578
8	4 10 28.51	2.5459	24 13 33.3	9.195	8	6 16 8.74	2.6385	28 8 38.9	0.388
9	4 13 1.41	2.5507	24 22 40.1	9.031	9	6 18 47.00	2.6368	28 8 56.5	0.198
10	4 15 34.59	2.5553	24 31 37.0	8.865	10	6 21 25.16	2.6351	28 9 2.7	+ 0.009
11	4 18 8.04	2.5597	24 40 23.9	8.697	11	6 24 3.21	2.6331	28 8 57.6	- 0.180
12	4 20 41.75	2.5641	24 49 0.7	8.529	12	6 26 41.13	2.6309	28 8 41.1	0.369
13	4 23 15.73	2.5685	24 57 27.4	8.360	13	6 29 18.92	2.6287	28 8 13.3	0.557
14	4 25 49.97	2.5728	25 5 43.9	8.190	14	6 31 56.57	2.6263	28 7 34.3	0.743
15	4 28 24.47	2.5771	25 13 50.2	8.018	15	6 34 34.07	2.6237	28 6 44.1	0.930
16	4 30 59.22	2.5812	25 21 46.1	7.845	16	6 37 11.41	2.6209	28 5 42.7	1.117
17	4 33 34.21	2.5851	25 29 31.6	7.672	17	6 39 48.58	2.6179	28 4 30.1	1.303
18	4 36 9.43	2.5890	25 37 6.7	7.497	18	6 42 25.56	2.6148	28 3 6.3	1.488
19	4 38 44.89	2.5928	25 44 31.2	7.320	19	6 45 2.36	2.6117	28 1 31.5	1.679
20	4 41 20.57	2.5965	25 51 45.1	7.143	20	6 47 38.97	2.6084	27 59 45.7	1.855
21	4 43 56.47	2.6001	25 58 48.4	6.966	21	6 50 15.37	2.6049	27 57 48.9	2.038
22	4 46 32.58	2.6036	26 5 41.0	6.787	22	6 52 51.56	2.6013	27 55 41.1	2.221
23	4 49 8.89	2.6069	26 12 22.8	6.606	23	6 55 27.53	2.5976	27 53 22.4	2.402
24	4 51 45.40	2.6102	N. 26° 18' 53.7"	6.425	24	6 58 3.27	2.5937	N. 27° 50' 52.9"	2.589

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	6 58 3.27	2.5837	N.27° 50' 52.9"	2.588	0	8 56 8.58	2.3015	N.22° 40' 41.6"	2.885
1	7 0 38.78	2.5897	27 48 12.6	2.783	1	8 58 26.46	2.2945	22 30 48.6	2.941
2	7 3 14.04	2.5855	27 45 21.5	2.941	2	9 0 43.92	2.2874	22 20 48.7	10.056
3	7 5 49.04	2.5812	27 42 19.7	3.118	3	9 3 0.95	2.2803	22 10 41.9	10.169
4	7 8 23.78	2.5768	27 39 7.3	3.295	4	9 5 17.56	2.2732	22 0 28.4	10.280
5	7 10 58.26	2.5723	27 35 44.3	3.471	5	9 7 33.74	2.2662	21 50 8.3	10.390
6	7 13 32.46	2.5677	27 32 10.8	3.646	6	9 9 49.50	2.2592	21 39 41.6	10.498
7	7 16 6.38	2.5632	27 28 26.8	3.820	7	9 12 4.84	2.2522	21 29 8.5	10.605
8	7 18 40.01	2.5580	27 24 32.4	3.992	8	9 14 19.76	2.2452	21 18 29.0	10.710
9	7 21 13.34	2.5530	27 20 27.8	4.163	9	9 16 34.26	2.2382	21 7 43.3	10.814
10	7 23 46.37	2.5479	27 16 12.9	4.334	10	9 18 48.34	2.2312	20 56 51.4	10.917
11	7 26 19.09	2.5427	27 11 47.7	4.504	11	9 21 2.00	2.2242	20 45 53.3	11.017
12	7 28 51.50	2.5374	27 7 12.4	4.673	12	9 23 15.25	2.2174	20 34 49.3	11.116
13	7 31 23.58	2.5319	27 2 27.0	4.839	13	9 25 28.09	2.2106	20 23 39.4	11.213
14	7 33 55.33	2.5264	26 57 31.7	5.004	14	9 27 40.52	2.2037	20 12 23.7	11.310
15	7 36 26.75	2.5208	26 52 26.5	5.169	15	9 29 52.53	2.1969	20 1 2.2	11.405
16	7 38 57.83	2.5151	26 47 11.4	5.332	16	9 32 4.14	2.1901	19 49 35.1	11.498
17	7 41 28.56	2.5093	26 41 46.6	5.494	17	9 34 15.34	2.1833	19 38 2.4	11.590
18	7 43 58.95	2.5035	26 36 12.1	5.655	18	9 36 26.14	2.1767	19 26 24.3	11.679
19	7 46 28.98	2.4975	26 30 28.0	5.815	19	9 38 36.54	2.1700	19 14 40.9	11.768
20	7 48 58.65	2.4914	26 24 34.3	5.973	20	9 40 46.54	2.1634	19 2 52.1	11.857
21	7 51 27.95	2.4852	26 18 31.2	6.130	21	9 42 56.15	2.1568	18 50 58.1	11.943
22	7 53 56.88	2.4790	26 12 18.7	6.286	22	9 45 5.36	2.1502	18 38 59.0	12.027
23	7 56 25.43	2.4728	N.26° 5' 56.9"	6.440	23	9 47 14.18	2.1437	N.18° 26' 54.9"	12.110
SUNDAY 26.					TUESDAY 28.				
0	7 58 53.61	2.4665	N.25° 59' 25.9"	6.593	0	9 49 22.61	2.1373	N.18° 14' 45.8"	12.199
1	8 1 21.41	2.4600	25 52 45.7	6.745	1	9 51 30.66	2.1309	18 2 31.9	12.272
2	8 3 48.81	2.4534	25 45 56.5	6.894	2	9 53 38.32	2.1245	17 50 13.2	12.351
3	8 6 15.82	2.4469	25 38 58.4	7.042	3	9 55 45.60	2.1183	17 37 49.8	12.426
4	8 8 42.44	2.4404	25 31 51.4	7.190	4	9 57 52.51	2.1121	17 25 21.8	12.504
5	8 11 8.67	2.4338	25 24 35.6	7.336	5	9 59 59.05	2.1059	17 12 49.3	12.579
6	8 13 34.50	2.4272	25 17 11.1	7.480	6	10 2 5.21	2.0997	17 0 12.4	12.659
7	8 15 59.93	2.4204	25 9 38.0	7.623	7	10 4 11.01	2.0936	16 47 31.1	12.733
8	8 18 24.95	2.4136	25 1 56.3	7.765	8	10 6 16.45	2.0876	16 34 45.6	12.793
9	8 20 49.56	2.4068	24 54 6.2	7.905	9	10 8 21.52	2.0816	16 21 55.9	12.862
10	8 23 13.76	2.3999	24 46 7.7	8.044	10	10 10 26.24	2.0757	16 9 2.1	12.930
11	8 25 37.55	2.3930	24 38 0.9	8.181	11	10 12 30.60	2.0698	15 56 4.3	12.997
12	8 28 0.92	2.3861	24 29 46.0	8.316	12	10 14 34.61	2.0640	15 43 2.5	13.068
13	8 30 23.88	2.3792	24 21 23.0	8.451	13	10 16 38.28	2.0582	15 29 56.9	13.135
14	8 32 46.42	2.3722	24 12 51.9	8.583	14	10 18 41.60	2.0525	15 16 47.5	13.187
15	8 35 8.54	2.3652	24 4 13.0	8.713	15	10 20 44.58	2.0469	15 3 34.4	13.248
16	8 37 30.24	2.3582	23 55 26.3	8.843	16	10 22 47.23	2.0414	14 50 17.7	13.306
17	8 39 51.52	2.3511	23 46 31.8	8.972	17	10 24 49.55	2.0359	14 36 57.4	13.367
18	8 42 12.37	2.3440	23 37 29.7	9.098	18	10 26 51.54	2.0304	14 23 33.7	13.423
19	8 44 32.80	2.3370	23 28 20.0	9.223	19	10 28 53.20	2.0251	14 10 6.6	13.479
20	8 46 52.81	2.3299	23 19 2.9	9.347	20	10 30 54.55	2.0198	13 56 36.2	13.533
21	8 49 12.39	2.3228	23 9 38.4	9.469	21	10 32 55.58	2.0146	13 43 2.6	13.587
22	8 51 31.55	2.3157	23 0 6.6	9.590	22	10 34 56.30	2.0094	13 29 25.8	13.638
23	8 53 50.28	2.3086	22 50 27.6	9.708	23	10 36 56.71	2.0043	13 15 46.0	13.688
24	8 56 8.58	2.3015	N.22° 40' 41.6"	9.825	24	10 38 56.82	1.9993	N.13° 2' 3.2"	13.737

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 29.					FRIDAY 31.				
0	h m s	1.9993	N. 13° 2' 3.2"	13.737	0	h m s	1.8411	N. 1° 27' 59.1"	14.765
1	10 38 56.82	1.9943	12 48 17.5	13.786	1	12 10 27.21	1.8396	1 13 13.3	14.761
2	10 40 56.63	1.9894	12 34 28.9	13.833	2	12 12 17.63	1.8389	0 58 27.8	14.756
3	10 42 56.14	1.9846	12 20 37.5	13.879	3	12 14 7.97	1.8388	0 43 42.6	14.750
4	10 44 55.36	1.9798	12 6 43.4	13.923	4	12 15 58.22	1.8385	0 28 57.8	14.743
5	10 46 54.29	1.9751	11 52 46.7	13.966	5	12 17 48.39	1.8348	N. 0 14 13.4	14.736
6	10 48 52.94	1.9704	11 38 47.5	14.007	6	12 19 38.48	1.8329	S. 0 0 30.5	14.727
7	10 50 51.30	1.9659	11 24 45.8	14.048	7	12 21 28.49	1.8318	0 15 13.8	14.717
8	10 52 49.39	1.9614	11 10 41.7	14.088	8	12 23 18.43	1.8309	0 29 56.5	14.707
9	10 54 47.21	1.9570	10 56 35.2	14.127	9	12 25 8.31	1.8300	0 44 38.6	14.696
10	10 56 44.76	1.9527	10 42 26.5	14.164	10	12 26 58.14	1.8291	0 59 20.0	14.683
11	10 58 42.05	1.9484	10 28 15.6	14.200	11	12 28 47.91	1.8282	1 14 0.6	14.670
12	11 0 39.08	1.9442	10 14 2.5	14.235	12	12 30 37.63	1.8273	1 28 40.4	14.656
13	11 2 35.86	1.9401	9 59 47.4	14.268	13	12 32 27.29	1.8267	1 43 19.3	14.641
14	11 4 32.39	1.9360	9 45 30.3	14.301	14	12 34 16.91	1.8262	1 57 57.3	14.625
15	11 6 28.67	1.9320	9 31 11.3	14.332	15	12 36 6.50	1.8256	2 12 34.3	14.608
16	11 8 24.71	1.9281	9 16 50.4	14.362	16	12 37 56.05	1.8251	2 27 10.3	14.591
17	11 10 20.51	1.9243	9 2 27.8	14.391	17	12 39 45.57	1.8246	2 41 45.2	14.573
18	11 12 16.08	1.9206	8 48 3.5	14.419	18	12 41 35.06	1.8249	2 56 18.9	14.559
19	11 14 11.43	1.9169	8 33 37.5	14.446	19	12 43 24.52	1.8239	3 10 51.4	14.539
20	11 16 6.56	1.9132	8 19 10.0	14.471	20	12 45 13.96	1.8237	3 25 22.7	14.511
21	11 18 1.46	1.9096	8 4 41.0	14.496	21	12 47 3.39	1.8236	3 39 52.7	14.489
22	11 19 56.14	1.9062	7 50 10.5	14.520	22	12 48 52.81	1.8235	3 54 21.4	14.467
23	11 21 50.61	1.9028	N. 7 35 38.6	14.542	23	12 50 42.22	1.8234	S. 4 8 48.7	14.442
24	11 23 44.88	1.9008							
THURSDAY 30.					SATURDAY, APRIL 1.				
0	h m s	1.8995	N. 7 21 5.4	14.584	0	h m s	1.8334	S. 4 23 14.4	14.416
1	11 25 38.95	1.8992	7 6 30.9	14.584					
2	11 27 32.82	1.8930	6 51 55.3	14.603					
3	11 29 26.50	1.8898	6 37 18.6	14.620					
4	11 31 19.98	1.8868	6 22 40.9	14.637					
5	11 33 13.28	1.8839	6 8 2.1	14.654					
6	11 35 6.40	1.8810	5 53 22.4	14.668					
7	11 36 59.35	1.8789	5 38 41.9	14.682					
8	11 38 52.12	1.8754	5 24 0.5	14.696					
9	11 42 37.17	1.8737	5 9 18.4	14.707					
10	11 44 29.45	1.8701	4 54 35.6	14.718					
11	11 46 21.58	1.8676	4 39 52.2	14.728					
12	11 48 13.57	1.8659	4 25 8.2	14.737					
13	11 50 5.41	1.8628	4 10 23.7	14.745					
14	11 51 57.11	1.8604	3 55 38.8	14.751					
15	11 53 48.66	1.8581	3 40 53.6	14.757					
16	11 55 40.08	1.8560	3 26 8.0	14.762					
17	11 57 31.38	1.8539	3 11 22.1	14.766					
18	11 59 22.55	1.8518	2 56 36.1	14.768					
19	12 1 13.60	1.8499	2 41 49.9	14.771					
20	12 3 4.54	1.8480	2 27 3.6	14.771					
21	12 4 55.36	1.8462	2 12 17.4	14.770					
22	12 6 46.08	1.8445	1 57 31.2	14.769					
23	12 8 36.70	1.8428	1 42 45.1	14.767					
24	12 10 27.21	1.8411	N. 1 27 59.1	14.765					
					PHASES OF THE MOON.				

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Mars W.	104° 46' 26"	2786	105° 21' 12"	2796	107° 55' 45"	2806	109° 30' 5"	2817
	Aldebaran W.	79 9 7	2616	80 48 0	2626	82 26 20	2635	84 4 28	2643
	Pollux W.	35 3 55	2570	36 43 31	2579	38 22 55	2588	40 2 6	2598
	SATURN E.	44 32 20	2546	42 52 11	2556	41 12 16	2566	39 32 34	2575
	Spica E.	55 46 44	2572	54 7 11	2582	52 27 52	2592	50 48 46	2601
	Antares E.	101 38 42	2566	99 59 1	2576	98 19 33	2585	96 40 18	2595
2	Aldebaran W.	92 11 54	2634	93 48 42	2704	95 25 16	2716	97 1 35	2726
	Pollux W.	48 14 45	2647	49 52 36	2657	51 30 14	2668	53 7 37	2678
	Spica E.	42 36 44	2655	40 59 3	2666	39 21 38	2678	37 44 28	2689
	Antares E.	88 27 23	2645	86 49 29	2656	85 11 50	2666	83 34 25	2677
3	Pollux W.	61 10 59	2732	62 46 56	2744	64 22 38	2754	65 58 6	2765
	Regulus W.	24 50 53	2788	26 25 37	2793	28 0 14	2800	29 34 42	2806
	Antares E.	75 30 55	2732	73 54 57	2742	72 19 13	2753	70 43 44	2763
4	Pollux W.	73 51 50	2820	75 25 52	2831	76 59 39	2842	78 33 12	2852
	Regulus W.	37 24 41	2817	38 58 8	2855	40 31 24	2866	42 4 27	2874
	Antares E.	62 49 58	2820	61 15 56	2831	59 42 8	2842	58 8 35	2852
	α Aquilæ E.	110 7 28	2789	108 52 14	2781	107 36 52	2775	106 21 24	2771
5	Pollux W.	86 17 36	2905	87 49 49	2914	89 21 50	2924	90 53 38	2934
	Regulus W.	49 46 46	2921	51 18 38	2930	52 50 19	2939	54 21 48	2949
	Antares E.	50 24 12	2905	48 51 59	2915	47 19 59	2925	45 48 12	2935
	α Aquilæ E.	100 3 28	2769	98 47 54	2772	97 32 23	2776	96 16 56	2780
6	Pollux W.	98 29 43	2978	100 0 23	2988	101 30 53	2994	103 1 13	3001
	Regulus W.	61 56 27	2990	63 26 52	2998	64 57 7	3005	66 27 13	3013
	Antares E.	38 12 13	2980	36 41 35	2988	35 11 7	2996	33 40 49	3004
	α Aquilæ E.	90 1 8	2816	88 46 22	2824	87 31 45	2835	86 17 19	2845
	SUN E.	135 52 55	3370	134 30 4	3377	133 7 21	3385	131 44 47	3393
7	Regulus W.	73 55 35	3044	75 24 53	3050	76 54 4	3055	78 23 9	3059
	SATURN W.	31 21 37	3011	32 51 36	3016	34 21 29	3021	35 51 16	3026
	Spica W.	19 55 8	3069	21 23 55	3072	22 52 39	3073	24 21 21	3075
	α Aquilæ E.	80 8 0	2908	78 54 48	2921	77 41 50	2926	76 29 7	2933
	VENUS E.	110 36 40	3518	109 16 36	3524	107 56 38	3529	106 36 46	3534
	SUN E.	124 53 59	3424	123 32 10	3431	122 10 28	3436	120 48 52	3440
8	Regulus W.	85 47 20	3077	87 15 58	3078	88 44 34	3080	90 13 8	3082
	SATURN W.	43 18 57	3042	44 48 18	3043	46 17 37	3045	47 46 54	3047
	Spica W.	31 44 25	3082	33 12 57	3082	34 41 28	3083	36 9 58	3083
	α Aquilæ E.	70 29 53	4046	69 18 59	4069	68 8 27	4091	66 58 17	4116
	VENUS E.	99 58 39	3553	98 39 13	3555	97 19 50	3556	96 0 28	3558
	SUN E.	114 2 0	3457	112 40 48	3459	111 19 38	3461	109 58 30	3463
9	Regulus W.	97 35 44	3081	99 4 17	3080	100 32 51	3078	102 1 28	3075
	SATURN W.	55 13 6	3046	56 42 22	3044	58 11 40	3042	59 41 1	3039
	Spica W.	43 32 31	3080	45 1 5	3078	46 29 42	3075	47 58 22	3072
	α Aquilæ E.	61 13 44	4261	60 6 15	4295	58 59 18	4322	57 52 55	4373
	VENUS E.	89 23 51	3557	88 4 30	3555	86 45 7	3553	85 25 41	3550
	SUN E.	103 13 0	3460	101 51 51	3459	100 30 41	3456	99 9 28	3454

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	MARS W.	111° 4 11"	2897	112° 38 4"	2837	114° 11 44"	2848	115° 45 10"	2859
	Aldebaran W.	85 42 24	2853	87 20 7	2863	88 57 36	2873	90 34 52	2884
	Pollux W.	41 41 4	2807	43 19 49	2817	44 58 21	2826	46 36 40	2837
	SATURN E.	37 53 5	2585	36 13 50	2595	34 34 48	2605	32 56 0	2615
	Spica E.	49 9 53	2819	47 31 14	2823	45 52 50	2833	44 14 40	2843
	Antares E.	95 1 16	2804	93 22 27	2815	91 43 52	2825	90 5 31	2835
2	Aldebaran W.	98 37 40	2738	100 13 30	2749	101 49 5	2760	103 24 25	2772
	Pollux W.	54 44 46	2689	56 21 41	2700	57 58 21	2710	59 34 47	2721
	Spica E.	36 7 33	2701	34 30 54	2713	32 54 31	2725	31 18 25	2737
	Antares E.	81 57 14	2687	80 20 17	2698	78 43 35	2710	77 7 8	2720
3	Pollux W.	67 33 20	2776	69 8 19	2787	70 43 4	2798	72 17 34	2809
	Regulus W.	31 9 2	2814	32 43 12	2821	34 17 12	2829	35 51 2	2838
	Antares E.	69 8 30	2775	67 33 30	2787	65 58 45	2798	64 24 14	2809
4	Pollux W.	80 6 32	2863	81 39 38	2873	83 12 31	2884	84 45 10	2894
	Regulus W.	43 37 19	2884	45 9 58	2893	46 42 26	2902	48 14 42	2912
	Antares E.	56 35 15	2863	55 2 9	2874	53 29 17	2884	51 56 38	2894
	α Aquilæ E.	105 5 52	2768	103 50 17	2768	102 34 41	2767	101 19 4	2761
5	Pollux W.	92 25 14	2943	93 56 38	2952	95 27 51	2962	96 58 52	2969
	Regulus W.	55 53 5	2958	57 24 11	2965	58 55 7	2974	60 25 52	2982
	Antares E.	44 16 37	2944	42 45 14	2953	41 14 2	2962	39 43 2	2971
	α Aquilæ E.	95 1 33	2786	93 46 16	2792	92 31 6	2799	91 16 3	2807
6	Pollux W.	104 31 24	3009	106 1 26	3016	107 31 19	3022	109 1 4	3028
	Regulus W.	67 57 10	3090	69 26 58	3096	70 56 38	3033	72 26 10	3039
	Antares E.	32 10 41	3011	30 40 42	3018	29 10 52	3026	27 41 11	3032
	α Aquilæ E.	85 3 3	2856	83 48 58	2868	82 35 6	2880	81 21 26	2894
	SUN E.	130 22 22	3400	129 0 5	3407	127 37 56	3413	126 15 54	3419
7	Regulus W.	79 52 9	3064	81 21 3	3067	82 49 53	3071	84 18 38	3073
	SATURN W.	37 20 57	3030	38 50 33	3033	40 20 5	3036	41 49 33	3039
	Spica W.	25 50 1	3077	27 18 39	3078	28 47 16	3079	30 15 51	3080
	α Aquilæ E.	75 16 41	2970	74 4 32	2987	72 52 40	2997	71 41 7	2998
	VENUS E.	105 16 59	2539	103 57 18	2543	102 37 41	2546	101 18 8	2550
	SUN E.	119 27 21	3445	118 5 55	3448	116 44 33	3452	115 23 15	3454
8	Regulus W.	91 41 40	3082	93 10 11	3082	94 38 42	3082	96 7 13	3082
	SATURN W.	49 16 9	3047	50 45 23	3047	52 14 37	3047	53 43 51	3047
	Spica W.	37 38 28	3063	39 6 58	3063	40 35 28	3062	42 3 59	3062
	α Aquilæ E.	65 48 31	4141	64 39 9	4168	63 30 13	4197	62 21 44	4226
	VENUS E.	94 41 8	2559	93 21 49	2559	92 2 30	2559	90 43 11	2558
	SUN E.	108 37 24	3463	107 16 18	3463	105 55 13	3463	104 34 7	3462
9	Regulus W.	103 30 8	3073	104 58 51	3089	106 27 39	3095	107 56 31	3091
	SATURN W.	61 10 25	3036	62 39 53	3032	64 9 26	3029	65 39 3	3024
	Spica W.	49 27 6	3089	50 55 54	3085	52 24 46	3080	53 53 44	3056
	α Aquilæ E.	56 47 9	4415	55 42 1	4489	54 37 35	4511	53 33 53	4535
	VENUS E.	84 6 12	2546	82 46 39	2543	81 27 2	2538	80 7 20	2533
	SUN E.	97 48 12	3450	96 26 52	3446	95 5 27	3441	93 43 57	3436

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	SATURN W.	67° 8' 46"	3019	68° 38' 35"	3014	70° 8' 31"	3008	71° 38' 34"	3001
	Spica W.	55 22 47	3051	56 51 57	3045	58 21 14	3039	59 50 38	3033
	α Aquilæ E.	52 30 58	4023	51 28 53	4026	50 27 41	4753	49 27 26	4886
	VENUS E.	78 47 32	3527	77 27 38	3522	76 7 38	3515	74 47 30	3507
	SUN E.	92 22 21	3431	91 0 39	3425	89 38 51	3418	88 16 55	3411
11	SATURN W.	79 11 1	2982	80 42 1	2953	82 13 13	2943	83 44 37	2934
	Spica W.	67 19 55	2993	68 50 17	2983	70 20 51	2973	71 51 37	2963
	Antares W.	21 25 58	2994	22 56 18	2985	24 26 50	2974	25 57 35	2964
	VENUS E.	68 4 39	3464	66 43 35	3454	65 22 19	3443	64 0 51	3431
	SUN E.	81 25 3	3368	80 2 10	3358	78 39 6	3347	77 15 49	3337
12	SATURN W.	91 24 57	2876	92 57 46	2865	94 30 50	2852	96 4 11	2839
	Spica W.	79 28 50	2906	81 1 1	2894	82 33 28	2881	84 6 11	2868
	Antares W.	33 34 50	2905	35 7 3	2892	36 39 32	2880	38 12 17	2866
	VENUS E.	57 10 10	3369	55 47 18	3355	54 24 10	3341	53 0 46	3326
	SUN E.	70 16 5	3275	68 51 24	3261	67 26 27	3247	66 1 14	3233
13	Spica W.	91 54 10	2797	93 28 42	2782	95 3 33	2767	96 38 44	2751
	Antares W.	46 0 32	2795	47 35 7	2779	49 10 2	2761	50 45 17	2749
	VENUS E.	45 59 26	3249	44 34 15	3233	43 8 45	3216	41 42 55	3199
	SUN E.	58 50 46	3157	57 23 45	3141	55 56 25	3124	54 28 45	3108
14	Spica W.	104 39 51	2672	106 17 8	2656	107 54 47	2640	109 32 48	2624
	Antares W.	58 46 44	2669	60 24 6	2652	62 1 50	2636	63 39 56	2619
	SUN E.	47 5 19	3023	45 35 35	3005	44 5 29	2989	42 35 2	2971
15	Spica W.	117 48 28	2542	119 28 43	2526	121 9 21	2510	122 50 20	2494
	Antares W.	71 56 6	2537	73 36 28	2520	75 17 13	2504	76 58 20	2488
	SUN E.	34 57 23	2687	33 24 47	2670	31 51 50	2654	30 18 32	2638
19	SUN W.	17 37 40	2515	19 18 32	2504	20 59 40	2495	22 41 0	2487
	Aldebaran E.	51 39 14	2249	49 51 59	2249	48 4 44	2251	46 17 32	2253
	Pollux E.	95 6 59	2164	93 17 37	2160	91 28 9	2156	89 38 35	2153
20	SUN W.	31 9 54	2465	32 51 56	2465	34 33 59	2464	36 16 3	2464
	Aldebaran E.	37 23 23	2283	35 37 13	2307	33 51 23	2324	32 5 58	2344
	Pollux E.	80 29 56	2147	78 40 8	2147	76 50 20	2147	75 0 33	2149
21	SUN W.	44 46 4	2474	46 27 54	2477	48 9 39	2481	49 51 19	2486
	Pollux E.	65 52 20	2162	64 2 55	2166	62 13 36	2170	60 24 23	2174
	Regulus E.	102 28 19	2172	100 39 9	2175	98 50 4	2180	97 1 6	2184
22	SUN W.	58 17 49	2515	59 58 42	2522	61 39 25	2529	63 19 58	2537
	α Arietis W.	25 5 32	2517	26 46 21	2487	28 27 52	2464	30 9 56	2445
	Pollux E.	51 20 16	2204	49 31 54	2210	47 43 42	2218	45 55 41	2225
	Regulus E.	87 58 8	2212	86 9 59	2219	84 22 0	2227	82 34 12	2233
23	SUN W.	71 39 59	2577	73 19 25	2587	74 58 38	2596	76 37 39	2605
	α Arietis W.	38 44 59	2404	40 28 26	2403	42 11 58	2403	43 55 28	2404
	Pollux E.	36 58 28	2266	35 11 38	2275	33 25 2	2284	31 38 39	2293
	Regulus E.	73 38 0	2274	71 51 22	2283	70 4 57	2291	68 18 45	2301

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	SATURN	W.	73° 8' 45"	2995	74° 39' 4"	2987	76° 9' 33"	2979	77° 40' 12"	2971
	Spica	W.	61 20 11	3026	62 49 52	3018	64 19 43	3009	65 49 44	3001
	α Aquilæ	E.	48 28 13	4908	47 30 5	4998	46 33 8	5094	45 37 26	5202
	VENUS	E.	73 27 14	3500	72 6 50	3491	70 46 16	3483	69 25 33	3473
	SUN	E.	86 54 51	3404	85 32 39	3395	84 10 17	3386	82 47 45	3378
11	SATURN	W.	85 16 13	2923	86 48 3	2912	88 20 6	2901	89 52 24	2889
	Spica	W.	73 22 36	2953	74 53 48	2942	76 25 14	2930	77 56 55	2919
	Antares	W.	27 28 33	2953	28 59 45	2941	30 31 12	2930	32 2 53	2917
	VENUS	E.	62 39 10	3420	61 17 16	3408	59 55 9	3395	58 32 47	3382
	SUN	E.	75 52 20	3325	74 28 37	3313	73 4 41	3300	71 40 30	3288
12	SATURN	W.	97 37 48	2825	99 11 43	2811	100 45 56	2797	102 20 28	2782
	Spica	W.	85 39 11	2854	87 12 29	2841	88 46 4	2826	90 19 58	2819
	Antares	W.	39 45 20	2853	41 18 40	2838	42 52 19	2824	44 26 16	2809
	VENUS	E.	51 37 5	3312	50 13 7	3297	48 48 52	3281	47 24 18	3265
	SUN	E.	64 35 44	3218	63 9 56	3204	61 43 51	3188	60 17 28	3173
13	Spica	W.	98 14 16	2736	99 50 8	2720	101 26 21	2704	103 2 55	2688
	Antares	W.	52 20 52	2733	53 56 48	2717	55 33 5	2701	57 9 44	2685
	VENUS	E.	40 16 45	3183	38 50 15	3166	37 23 25	3148	35 56 14	3132
	SUN	E.	53 0 45	3091	51 32 25	3074	50 3 44	3057	48 34 42	3040
14	Spica	W.	111 11 11	2607	112 49 57	2591	114 29 5	2574	116 8 35	2558
	Antares	W.	65 18 25	2603	66 57 16	2586	68 36 30	2569	70 16 7	2553
	SUN	E.	41 4 13	2954	39 33 3	2937	38 1 31	2920	36 29 38	2903
15	Spica	W.	124 31 42	2478	126 13 26	2463	127 55 31	2448	129 37 58	2432
	Antares	W.	78 39 50	2472	80 21 42	2456	82 3 57	2441	83 46 33	2426
	SUN	E.	28 44 54	2923	27 10 56	2908	25 36 39	2795	24 2 4	2780
19	SUN	W.	24 22 32	2480	26 4 13	2475	27 46 1	2471	29 27 55	2467
	Aldebaran	E.	44 30 24	2258	42 43 23	2264	40 56 31	2272	39 9 50	2281
	Pollux	E.	87 48 57	2151	85 59 15	2149	84 9 31	2147	82 19 44	2147
20	SUN	W.	37 58 7	2465	39 40 10	2465	41 22 11	2468	43 4 9	2470
	Aldebaran	E.	30 21 3	2369	28 36 44	2398	26 53 7	2434	25 10 21	2476
	Pollux	E.	73 10 48	2150	71 21 5	2153	69 31 26	2155	67 41 51	2158
21	SUN	W.	51 32 52	2491	53 14 18	2496	54 55 37	2502	56 36 47	2508
	Pollux	E.	58 35 17	2180	56 46 19	2185	54 57 29	2191	53 8 48	2197
	Regulus	E.	95 12 14	2189	93 23 30	2194	91 34 54	2200	89 46 27	2206
22	SUN	W.	65 0 20	2544	66 40 32	2553	68 20 32	2561	70 0 21	2569
	α Arietis	W.	31 52 26	2432	33 35 15	2421	35 18 20	2413	37 1 36	2408
	Pollux	E.	44 7 51	2233	42 20 12	2241	40 32 45	2249	38 45 30	2258
	Regulus	E.	80 46 34	2241	78 59 8	2249	77 11 53	2257	75 24 50	2266
23	SUN	W.	78 16 27	2614	79 55 3	2624	81 33 25	2634	83 11 34	2643
	α Arietis	W.	45 38 57	2406	47 22 23	2410	49 5 44	2412	50 49 1	2417
	Pollux	E.	29 52 29	2302	28 6 33	2313	26 20 52	2322	24 35 25	2332
	Regulus	E.	66 32 47	2310	64 47 2	2320	63 1 31	2328	61 16 13	2339

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
24	SUN	W. 84° 49' 30"	9653	86° 27' 13"	9663	88° 4' 42"	9673	89° 41' 58"	9684
	α Arietis	W. 52 32 11	9499	54 15 14	9497	55 58 10	9493	57 40 57	9440
	MARS	W. 31 51 52	9545	33 32 3	9555	35 12 0	9564	36 51 44	9574
	Regulus	E. 59 31 10	9348	57 46 21	9358	56 1 46	9368	54 17 25	9378
	SATURN	E. 100 43 13	9310	98 57 28	9319	97 11 56	9328	95 26 38	9337
25	SUN	W. 97 44 55	9734	99 20 50	9744	100 56 31	9754	102 31 59	9764
	α Arietis	W. 66 12 29	9476	67 54 16	9484	69 35 52	9492	71 17 17	9500
	MARS	W. 45 7 6	9693	46 45 30	9699	48 23 41	9704	50 1 39	9659
	Aldebaran	W. 36 4 40	9554	37 44 38	9559	39 24 39	9563	41 4 40	9553
	Regulus	E. 45 39 25	9431	43 56 34	9449	42 13 59	9453	40 31 40	9465
	SATURN	E. 86 43 31	9385	84 59 35	9394	83 15 52	9403	81 32 22	9413
	Spica	E. 99 38 28	9413	97 55 12	9423	96 12 10	9432	94 29 21	9441
26	SUN	W. 110 26 0	9815	112 0 8	9825	113 34 4	9835	115 7 47	9845
	α Arietis	W. 79 41 26	9543	81 21 40	9551	83 1 42	9560	84 41 32	9569
	MARS	W. 58 8 9	9701	59 44 47	9710	61 21 13	9720	62 57 26	9730
	Aldebaran	W. 49 23 55	9579	51 3 29	9577	52 42 56	9583	54 22 15	9586
	SATURN	E. 72 58 15	9400	71 16 5	9409	69 34 8	9418	67 52 24	9427
	Spica	E. 85 58 35	9488	84 17 5	9498	82 35 49	9507	80 54 46	9517
27	SUN	W. 122 53 10	9894	124 25 37	9903	125 57 52	9913	127 29 54	9924
	α Arietis	W. 92 57 37	9614	94 36 13	9624	96 14 36	9633	97 52 46	9642
	MARS	W. 70 55 20	9778	72 30 17	9787	74 5 2	9796	75 39 35	9804
	Aldebaran	W. 62 36 45	9691	64 15 11	9699	65 53 27	9706	67 31 33	9713
	SATURN	E. 59 26 56	9533	57 46 28	9549	56 6 13	9551	54 26 10	9559
	Spica	E. 72 32 42	9592	70 52 55	9611	69 13 20	9620	67 33 58	9630
	Antares	E. 105 12 19	9699	103 34 3	9717	101 55 58	9726	100 18 5	9735
28	α Arietis	W. 106 0 28	9689	107 37 22	9699	109 14 3	9709	110 50 31	9719
	MARS	W. 83 29 19	9859	85 2 40	9869	86 35 50	9879	88 8 48	9879
	Aldebaran	W. 75 39 33	9692	77 16 37	9709	78 53 31	9726	80 30 14	9736
	Pollux	W. 31 30 39	9639	33 8 50	9649	34 46 50	9659	36 24 39	9657
	SATURN	E. 46 8 56	9603	44 30 5	9619	42 51 26	9630	41 12 58	9629
	Spica	E. 59 20 10	9634	57 42 1	9643	56 4 4	9652	54 26 19	9660
	Antares	E. 105 12 19	9699	103 34 3	9717	101 55 58	9726	100 18 5	9735
29	MARS	W. 95 50 44	9894	97 22 33	9903	98 54 10	9913	100 25 36	9924
	Aldebaran	W. 88 31 6	9747	90 6 43	9756	91 42 9	9764	93 17 24	9772
	Pollux	W. 44 30 55	9698	46 7 37	9707	47 44 8	9716	49 20 27	9723
	SATURN	E. 33 3 35	9679	31 26 17	9681	29 49 11	9689	28 12 16	9696
	Spica	E. 46 20 32	9705	44 43 59	9713	43 7 37	9722	41 31 27	9732
	Antares	E. 92 11 33	9696	90 34 48	9705	88 58 15	9713	87 21 53	9722
30	Aldebaran	W. 101 10 49	9817	102 44 55	9825	104 18 50	9835	105 52 33	9844
	Pollux	W. 57 19 22	9765	58 54 36	9773	60 29 39	9782	62 4 31	9789
	Regulus	W. 21 3 14	9844	22 36 45	9843	24 10 17	9843	25 43 49	9845
	Spica	E. 33 33 40	9779	31 58 44	9788	30 24 1	9798	28 49 31	9806
	Antares	E. 79 22 52	9764	77 47 37	9773	76 12 33	9781	74 37 40	9788
31	Pollux	W. 69 56 12	9831	71 30 0	9838	73 3 38	9847	74 37 5	9855
	Regulus	W. 33 30 36	9865	35 3 40	9869	36 36 38	9876	38 9 28	9882
	Antares	E. 66 45 55	9830	65 12 6	9838	63 38 28	9846	62 5 0	9855

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
24	SUN W.	91° 19' 0"	2693	92° 55' 46"	2704	94° 32' 24"	2713	96° 8' 46"	2723
	α Arietis W.	59 23 35	2447	61 6 3	2453	62 48 22	2460	64 30 31	2468
	MARS W.	38 31 15	2583	40 10 33	2593	41 49 37	2603	43 28 28	2612
	Regulus E.	52 33 19	2389	50 49 28	2399	49 5 52	2410	47 22 31	2420
	SATURN E.	93 41 33	2347	91 56 42	2357	90 12 5	2366	88 27 41	2375
25	SUN W.	104 7 14	2775	105 42 15	2785	107 17 3	2795	108 51 38	2805
	α Arietis W.	72 58 30	2508	74 39 32	2517	76 20 22	2525	78 1 0	2534
	MARS W.	51 39 23	2693	53 16 54	2673	54 54 12	2681	56 31 17	2691
	Aldebaran W.	42 44 39	2556	44 24 35	2559	46 4 27	2569	47 44 14	2566
	Regulus E.	38 49 37	2476	37 7 50	2488	35 26 20	2500	33 45 7	2512
	SATURN E.	79 49 6	2422	78 6 3	2432	76 23 14	2441	74 40 38	2450
	Spica E.	92 46 45	2451	91 4 23	2460	89 22 14	2470	87 40 18	2479
26	SUN W.	116 41 17	2855	118 14 34	2864	119 47 39	2874	121 20 31	2884
	α Arietis W.	86 21 10	2578	88 0 35	2587	89 39 48	2596	91 18 49	2605
	MARS W.	64 33 26	2739	66 9 14	2750	67 44 48	2759	69 20 10	2768
	Aldebaran W.	56 1 27	2594	57 40 30	2601	59 19 24	2607	60 58 9	2614
	SATURN E.	66 10 53	2497	64 29 35	2505	62 48 29	2515	61 7 36	2524
	Spica E.	79 13 56	2596	77 33 19	2535	75 52 54	2544	74 12 42	2553
27	SUN W.	129 1 44	2939	130 33 22	2942	132 4 48	2951	133 36 2	2961
	α Arietis W.	99 30 44	2652	101 8 29	2660	102 46 2	2671	104 23 21	2680
	MARS W.	77 13 56	2815	78 48 4	2824	80 22 1	2833	81 55 46	2842
	Aldebaran W.	69 9 30	2651	70 47 16	2658	72 24 52	2666	74 2 18	2674
	SATURN E.	52 46 19	2569	51 6 41	2577	49 27 14	2585	47 47 59	2594
	Spica E.	65 54 48	2598	64 15 50	2607	62 37 5	2615	60 58 31	2625
28	α Arietis W.	112 26 45	2729	114 2 46	2739	115 38 34	2750	117 14 8	2760
	MARS W.	89 41 34	2887	91 14 9	2897	92 46 32	2905	94 18 44	2915
	Aldebaran W.	82 6 46	2714	83 43 7	2722	85 19 18	2730	86 55 18	2739
	Pollux W.	38 2 16	2665	39 39 43	2674	41 16 58	2682	42 54 2	2690
	SATURN E.	39 34 42	2638	37 56 38	2646	36 18 45	2655	34 41 4	2663
	Spica E.	52 48 46	2669	51 11 25	2678	49 34 15	2687	47 57 18	2695
	Antares E.	98 40 24	2663	97 2 54	2672	95 25 36	2680	93 48 29	2688
29	MARS W.	101 56 51	2959	103 27 55	2968	104 58 48	2977	106 29 30	2986
	Aldebaran W.	94 52 28	2792	96 27 20	2799	98 2 1	2798	99 36 31	2808
	Pollux W.	50 56 36	2732	52 32 34	2740	54 8 21	2748	55 43 57	2756
	SATURN E.	26 35 33	2707	24 59 2	2715	23 22 42	2724	21 46 34	2732
	Spica E.	39 55 29	2741	38 19 43	2750	36 44 10	2760	35 8 49	2769
	Antares E.	85 45 43	2730	84 9 43	2739	82 33 55	2747	80 58 18	2756
30	Aldebaran W.	107 26 4	2853	108 59 23	2862	110 32 30	2872	112 5 25	2882
	Pollux W.	63 39 13	2798	65 13 44	2806	66 48 4	2815	68 22 13	2822
	Regulus W.	27 17 19	2847	28 50 46	2851	30 24 8	2855	31 57 25	2859
	Spica E.	27 15 14	2819	25 41 11	2830	24 7 22	2842	22 33 48	2854
	Antares E.	73 2 57	2798	71 28 26	2805	69 54 5	2814	68 19 55	2821
31	Pollux W.	76 10 22	2869	77 43 29	2871	79 16 25	2879	80 49 11	2887
	Regulus W.	39 42 10	2888	41 14 44	2894	42 47 10	2901	44 19 28	2908
	Antares E.	60 31 43	2892	58 58 36	2871	57 25 40	2879	55 52 54	2887

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.		Subtracted from Apparent Time.		
Sat.	1	^h 0 ^m 44 ^s 5.37	9.098	N. 4° 44' 32.0	+57.71	16' 2.06	64.53	^m 3 ^s 48.43	0.756	
SUN.	2	0 47 43.78	9.104	5 7 34.6	57.50	16 1.78	64.55	3 30.34	0.751	
Mon.	3	0 51 22.34	9.110	5 30 31.9	57.27	16 1.50	64.57	3 12.39	0.744	
Tues.	4	0 55 1.06	9.118	5 53 23.4	+57.02	16 1.23	64.60	2 54.61	0.737	
Wed.	5	0 58 39.98	9.125	6 16 8.9	56.76	16 0.95	64.62	2 37.02	0.729	
Thur.	6	1 2 19.10	9.134	6 38 48.0	56.49	16 0.66	64.65	2 19.63	0.720	
Frid.	7	1 5 58.43	9.144	7 1 20.5	+56.21	16 0.38	64.69	2 2.46	0.710	
Sat.	8	1 9 38.02	9.155	7 23 45.9	55.91	16 0.10	64.72	1 45.54	0.700	
SUN.	9	1 13 17.86	9.166	7 46 4.0	55.59	15 59.82	64.76	1 28.88	0.688	
Mon.	10	1 16 58.00	9.179	8 8 14.4	+55.27	15 59.55	64.80	1 12.51	0.676	
Tues.	11	1 20 38.43	9.191	8 30 16.8	54.92	15 59.27	64.84	0 56.43	0.664	
Wed.	12	1 24 19.16	9.204	8 52 10.8	54.57	15 58.99	64.88	0 40.66	0.659	
Thur.	13	1 28 0.24	9.218	9 13 56.0	+54.20	15 58.72	64.93	0 25.21	0.636	
Frid.	14	1 31 41.64	9.233	9 35 32.2	53.81	15 58.45	64.98	0 10.10	0.622	
Sat.	15	1 35 23.41	9.248	9 56 58.9	53.41	15 58.18	65.03	0 4.65	0.607	
SUN.	16	1 39 5.53	9.263	10 18 15.7	+52.99	15 57.91	65.09	0 19.04	0.592	
Mon.	17	1 42 48.02	9.279	10 39 22.4	52.56	15 57.65	65.14	0 33.06	0.576	
Tues.	18	1 46 30.91	9.296	11 0 18.5	52.11	15 57.39	65.20	0 46.69	0.560	
Wed.	19	1 50 14.20	9.312	11 21 3.7	+51.65	15 57.13	65.26	0 59.93	0.543	
Thur.	20	1 53 57.88	9.329	11 41 37.6	51.17	15 56.88	65.32	1 12.76	0.526	
Frid.	21	1 57 42.00	9.347	12 2 0.0	50.68	15 56.63	65.39	1 25.17	0.508	
Sat.	22	2 1 26.53	9.365	12 22 10.3	+50.18	15 56.38	65.45	1 37.16	0.490	
SUN.	23	2 5 11.51	9.383	12 42 8.4	49.66	15 56.13	65.52	1 48.71	0.472	
Mon.	24	2 8 56.93	9.402	13 1 53.8	49.12	15 55.88	65.59	1 59.80	0.453	
Tues.	25	2 12 42.82	9.421	13 21 26.4	+48.58	15 55.64	65.66	2 10.44	0.433	
Wed.	26	2 16 29.19	9.442	13 40 45.7	48.02	15 55.40	65.73	2 20.59	0.413	
Thur.	27	2 20 16.03	9.462	13 59 51.3	47.45	15 55.15	65.81	2 30.28	0.393	
Frid.	28	2 24 3.39	9.484	14 18 43.2	+46.87	15 54.91	65.88	2 39.45	0.372	
Sat.	29	2 27 51.25	9.505	14 37 20.9	46.27	15 54.68	65.96	2 48.13	0.351	
SUN.	30	2 31 39.62	9.527	14 55 44.1	45.66	15 54.44	66.03	2 56.29	0.329	
Mon.	31	2 35 28.53	9.549	N.15 13 52.6	+45.04	15 54.20	66.11	3 3.91	0.306	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sideral time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Added to Mean Time.		
Sat.	1	^h 0 ^m 44 ^s 4.79	9.100	N. 4° 44' 28.4"	+57.73	^m 3 ^s 48.48	0.756	^h 0 ^m 40 ^s 16.31
SUN.	2	0 47 43.25	9.106	5 7 31.2	57.50	3 30.38	0.751	0 44 12.87
Mon.	3	0 51 21.85	9.112	5 30 28.8	57.27	3 12.43	0.744	0 48 9.42
Tues.	4	0 55 0.62	9.120	5 53 20.6	+57.03	2 54.65	0.737	0 52 5.97
Wed.	5	0 58 39.58	9.127	6 16 6.4	56.78	2 37.05	0.729	0 56 2.53
Thur.	6	1 2 18.74	9.136	6 38 45.8	56.50	2 19.66	0.720	0 59 59.08
Frid.	7	1 5 58.12	9.146	7 1 18.6	+56.22	2 2.48	0.710	1 3 55.64
Sat.	8	1 9 37.75	9.157	7 23 44.3	55.92	1 45.56	0.700	1 7 52.19
SUN.	9	1 13 17.64	9.168	7 46 2.6	55.60	1 28.90	0.688	1 11 48.74
Mon.	10	1 16 57.82	9.180	8 8 13.3	+55.28	1 12.52	0.676	1 15 45.30
Tues.	11	1 20 38.29	9.193	8 30 15.9	54.94	0 56.44	0.664	1 19 41.85
Wed.	12	1 24 19.06	9.206	8 52 10.2	54.58	0 40.67	0.650	1 23 38.41
Thur.	13	1 28 0.18	9.220	9 13 55.7	+54.20	0 25.21	0.636	1 27 34.96
Frid.	14	1 31 41.62	9.234	9 35 32.0	53.82	0 10.10	0.622	1 31 31.52
Sat.	15	1 35 23.42	9.249	9 56 58.9	53.42	0 4.65	0.607	1 35 28.07
SUN.	16	1 39 5.58	9.264	10 18 16.0	+53.00	0 19.04	0.592	1 39 24.62
Mon.	17	1 42 48.11	9.280	10 39 22.9	52.57	0 33.07	0.576	1 43 21.18
Tues.	18	1 46 31.03	9.297	11 0 19.2	52.12	0 46.70	0.560	1 47 17.73
Wed.	19	1 50 14.35	9.313	11 21 4.6	+51.66	0 59.94	0.543	1 51 14.29
Thur.	20	1 53 58.07	9.331	11 41 38.7	51.18	1 12.77	0.526	1 55 10.84
Frid.	21	1 57 42.22	9.348	12 2 1.2	50.69	1 25.18	0.508	1 59 7.40
Sat.	22	2 1 26.78	9.366	12 22 11.7	+50.18	1 37.17	0.490	2 3 3.95
SUN.	23	2 5 11.79	9.385	12 42 9.9	49.66	1 48.72	0.472	2 7 0.51
Mon.	24	2 8 57.24	9.404	13 1 55.5	49.13	1 59.82	0.453	2 10 57.06
Tues.	25	2 12 43.16	9.423	13 21 28.2	+48.59	2 10.46	0.433	2 14 53.62
Wed.	26	2 16 29.56	9.443	13 40 47.6	48.02	2 20.61	0.413	2 18 50.17
Thur.	27	2 20 16.43	9.464	13 59 53.3	47.45	2 30.30	0.393	2 22 46.73
Frid.	28	2 24 3.81	9.485	14 18 45.3	+46.87	2 39.47	0.372	2 26 43.28
Sat.	29	2 27 51.69	9.506	14 37 23.1	46.27	2 48.15	0.351	2 30 39.84
SUN.	30	2 31 40.09	9.528	14 55 46.4	45.66	2 56.31	0.329	2 34 36.40
Mon.	31	2 35 29.02	9.550	N. 15 13 54.9	+45.04	3 3.93	0.306	2 38 32.95

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 Hour,
+ 9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	91	11° 59' 26.4	59' 22.8	147.78	+ 0.17	9.9999726	+52.1	23 ^h 15 ^m 54.38 ^s
2	92	12 58 32.1	58 28.3	147.69	+ 0.04	0.0000978	52.3	23 11 58.47
3	93	13 57 35.7	57 31.8	147.61	— 0.09	0.0002236	52.5	23 8 2.56
4	94	14 56 37.5	56 33.5	147.54	— 0.21	0.0003499	+52.6	23 4 6.66
5	95	15 55 37.4	55 33.3	147.46	0.32	0.0004765	52.8	23 0 10.74
6	96	16 54 35.5	54 31.3	147.38	0.42	0.0006033	52.8	22 56 14.84
7	97	17 53 31.8	53 27.5	147.31	— 0.50	0.0007301	+52.8	22 52 18.92
8	98	18 52 26.4	52 22.0	147.24	0.56	0.0008568	52.7	22 48 23.02
9	99	19 51 19.3	51 14.7	147.17	0.58	0.0009832	52.6	22 44 27.12
10	100	20 50 10.4	50 5.7	147.09	— 0.57	0.0011092	+52.4	22 40 31.20
11	101	21 48 59.8	48 55.0	147.02	0.53	0.0012347	52.1	22 36 35.30
12	102	22 47 47.5	47 42.6	146.95	0.46	0.0013592	51.8	22 32 39.38
13	103	23 46 33.4	46 28.4	146.88	— 0.37	0.0014831	+51.4	22 28 43.48
14	104	24 45 17.5	45 12.3	146.80	0.26	0.0016060	51.0	22 24 47.57
15	105	25 43 59.7	43 54.4	146.72	— 0.13	0.0017277	50.5	22 20 51.66
16	106	26 42 39.9	42 34.5	146.63	0.00	0.0018482	+50.0	22 16 55.76
17	107	27 41 18.2	41 12.6	146.55	+ 0.13	0.0019675	49.5	22 12 59.84
18	108	28 39 54.5	39 48.8	146.47	0.26	0.0020856	48.9	22 9 3.94
19	109	29 38 28.8	38 23.0	146.38	+ 0.37	0.0022024	+48.4	22 5 8.02
20	110	30 37 0.9	36 54.9	146.29	0.46	0.0023180	48.0	22 1 12.12
21	111	31 35 30.8	35 24.7	146.20	0.53	0.0024326	47.5	21 57 16.21
22	112	32 33 58.7	33 52.5	146.12	+ 0.57	0.0025461	+47.1	21 53 20.30
23	113	33 32 24.6	32 18.3	146.03	0.59	0.0026586	46.7	21 49 24.39
24	114	34 30 48.3	30 41.8	145.94	0.57	0.0027703	46.4	21 45 28.48
25	115	35 29 9.8	29 3.2	145.85	+ 0.52	0.0028813	+46.1	21 41 32.57
26	116	36 27 29.2	27 22.4	145.76	0.44	0.0029917	45.9	21 37 36.67
27	117	37 25 46.5	25 39.6	145.68	0.34	0.0031014	45.6	21 33 40.75
28	118	38 24 1.9	23 54.9	145.60	+ 0.22	0.0032106	+ 45.4	21 29 44.85
29	119	39 22 15.4	22 8.2	145.52	+ 0.09	0.0033193	45.2	21 25 48.93
30	120	40 20 27.0	20 19.7	145.45	— 0.04	0.0034276	45.0	21 21 53.02
31	121	41 18 36.8	18 29.3	145.38	— 0.17	0.0035355	+44.8	21 17 57.11
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 th .								
Diff. for 1 Hour, — 9 ^s .8296. (Table II.)								

GREENWICH MEAN TIME.									
Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 2.3	14' 59.2	55' 4.9	-0.98	54' 53.4	-0.92	^h 12 ^m 35.0	^m 1.71	^d 14.3
2	14 56.3	14 53.7	54 42.8	0.84	54 33.3	0.75	13 16.5	1.75	15.3
3	14 51.4	14 49.5	54 24.9	0.65	54 17.8	0.53	13 59.4	1.83	16.3
4	14 48.0	14 47.2	54 12.3	-0.39	54 8.4	-0.25	14 44.5	1.93	17.3
5	14 46.4	14 46.4	54 6.4	-0.09	54 6.3	+0.09	15 31.9	2.03	18.3
6	14 47.2	14 48.2	54 8.4	+0.28	54 12.9	0.46	16 21.8	2.12	19.3
7	14 50.0	14 52.5	54 19.5	+0.66	54 28.6	+0.67	17 13.5	2.18	20.3
8	14 55.6	14 59.4	54 40.2	1.07	54 54.2	1.27	18 5.9	2.19	21.3
9	15 3.9	15 9.1	55 10.7	1.48	55 29.6	1.66	18 58.1	2.15	22.3
10	15 14.8	15 21.1	55 50.6	+1.84	56 13.7	+2.00	19 49.2	2.10	23.3
11	15 27.9	15 35.0	56 38.6	2.13	57 4.8	2.23	20 38.8	2.04	24.3
12	15 42.4	15 50.0	57 32.0	2.30	57 59.9	2.32	21 27.2	2.00	25.3
13	15 57.5	16 4.9	58 27.5	+2.28	58 54.5	+2.20	22 15.3	2.00	26.3
14	16 11.9	16 18.4	59 20.3	2.07	59 44.1	1.88	23 3.8	2.05	27.3
15	16 24.1	16 29.0	60 5.3	1.64	60 23.3	1.35	23 54.3	2.16	28.3
16	16 32.9	16 35.7	60 37.6	+1.02	60 47.8	+0.67	6		29.3
17	16 37.3	16 37.7	60 53.7	+0.31	60 55.1	-0.06	0 47.9	2.31	0.9
18	16 36.9	16 35.0	60 52.2	-0.42	60 45.1	0.75	1 45.6	2.49	1.9
19	16 32.0	16 28.2	60 34.3	-1.05	60 20.1	-1.30	2 47.1	2.63	2.9
20	16 23.5	16 18.3	60 3.1	1.51	59 43.8	1.68	3 51.0	2.68	3.9
21	16 12.6	16 6.6	59 22.9	1.79	59 0.9	1.86	4 54.7	2.60	4.9
22	16 0.4	15 54.2	58 38.2	-1.90	58 15.4	-1.90	5 55.3	2.43	5.9
23	15 48.1	15 42.0	57 52.8	1.87	57 30.6	1.82	6 51.2	2.22	6.9
24	15 36.2	15 30.6	57 9.2	1.75	56 48.8	1.66	7 42.0	2.02	7.9
25	15 25.3	15 20.4	56 29.4	-1.57	56 11.2	-1.47	8 28.4	1.86	8.9
26	15 15.7	15 11.4	55 54.1	1.37	55 38.3	1.27	9 11.7	1.75	9.9
27	15 7.5	15 3.8	55 23.7	1.17	55 10.3	1.08	9 53.0	1.70	10.9
28	15 0.5	14 57.4	54 58.0	-0.98	54 46.9	-0.88	10 33.5	1.69	11.9
29	14 54.7	14 52.3	54 36.9	0.79	54 28.0	0.69	11 14.4	1.72	12.9
30	14 50.2	14 48.4	54 20.3	0.60	54 13.7	0.50	11 56.5	1.79	13.9
31	14 47.0	14 45.8	54 8.4	-0.40	54 4.2	-0.30	12 40.7	1.89	14.9

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 1.					MONDAY 3.				
0	12 54 21.03	1.8934	S. 4° 23' 14.4"	14.416	0	14 23 5.19	1.8958	S. 15° 10' 42.2"	12.943
1	12 56 10.44	1.8936	4 37 38.6	14.391	1	14 24 59.02	1.8966	15 22 54.8	12.178
2	12 57 59.86	1.8937	4 52 1.3	14.365	2	14 26 53.02	1.9014	15 35 3.5	12.112
3	12 59 49.29	1.8939	5 6 22.4	14.337	3	14 28 47.19	1.9043	15 47 8.2	12.045
4	13 1 38.73	1.8949	5 20 41.8	14.309	4	14 30 41.54	1.9073	15 59 8.9	11.977
5	13 3 28.20	1.8946	5 34 59.5	14.280	5	14 32 36.06	1.9108	16 11 5.4	11.908
6	13 5 17.69	1.8951	5 49 15.4	14.250	6	14 34 30.76	1.9139	16 22 57.8	11.838
7	13 7 7.21	1.8956	6 3 29.5	14.219	7	14 36 25.65	1.9163	16 34 46.0	11.768
8	13 8 56.76	1.8961	6 17 41.7	14.187	8	14 38 20.72	1.9194	16 46 30.0	11.697
9	13 10 46.34	1.8967	6 31 52.0	14.155	9	14 40 15.98	1.9226	16 58 9.7	11.626
10	13 12 35.96	1.8973	6 46 0.3	14.122	10	14 42 11.43	1.9257	17 9 45.1	11.553
11	13 14 25.62	1.8981	7 0 6.6	14.088	11	14 44 7.07	1.9289	17 21 16.0	11.479
12	13 16 15.33	1.8989	7 14 10.9	14.054	12	14 46 2.90	1.9322	17 32 42.5	11.405
13	13 18 5.09	1.8997	7 28 13.1	14.017	13	14 47 58.93	1.9355	17 44 4.6	11.330
14	13 19 54.90	1.8997	7 42 13.0	13.980	14	14 49 55.16	1.9389	17 55 22.1	11.254
15	13 21 44.77	1.8917	7 56 10.7	13.943	15	14 51 51.60	1.9423	18 6 35.0	11.177
16	13 23 34.70	1.8997	8 10 6.2	13.905	16	14 53 48.24	1.9457	18 17 43.3	11.099
17	13 25 24.70	1.8938	8 23 59.3	13.865	17	14 55 45.08	1.9490	18 28 46.9	11.021
18	13 27 14.76	1.8949	8 37 50.0	13.825	18	14 57 42.12	1.9524	18 39 45.8	10.942
19	13 29 4.89	1.8969	8 51 38.3	13.784	19	14 59 39.37	1.9560	18 50 39.9	10.863
20	13 30 55.10	1.8975	9 5 24.1	13.742	20	15 1 36.84	1.9596	19 1 29.2	10.788
21	13 32 45.39	1.8986	9 19 7.4	13.700	21	15 3 34.52	1.9631	19 12 13.7	10.700
22	13 34 35.76	1.8992	9 32 48.1	13.657	22	15 5 32.41	1.9667	19 22 53.2	10.618
23	13 36 26.22	1.8916	S. 9 46 26.2	13.613	23	15 7 30.52	1.9703	S. 19 33 27.8	10.535
SUNDAY 2.					TUESDAY 4.				
0	13 38 16.76	1.8931	S. 10° 0' 1.7"	13.569	0	15 9 28.85	1.9740	S. 19° 43' 57.4"	10.451
1	13 40 7.39	1.8947	10 13 34.5	13.523	1	15 11 27.40	1.9777	19 54 21.9	10.368
2	13 41 58.12	1.8964	10 27 4.4	13.475	2	15 13 26.17	1.9813	20 4 41.3	10.286
3	13 43 48.96	1.8981	10 40 31.5	13.427	3	15 15 25.16	1.9850	20 14 55.5	10.193
4	13 45 39.90	1.8998	10 53 55.7	13.379	4	15 17 24.37	1.9888	20 25 4.5	10.107
5	13 47 30.94	1.8916	11 7 17.0	13.331	5	15 19 23.81	1.9926	20 35 8.3	10.019
6	13 49 22.09	1.8935	11 20 35.4	13.283	6	15 21 23.48	1.9964	20 45 6.8	9.930
7	13 51 13.36	1.8954	11 33 50.8	13.235	7	15 23 23.38	2.0002	20 54 59.9	9.840
8	13 53 4.74	1.8973	11 47 3.1	13.179	8	15 25 23.51	2.0040	21 4 47.6	9.750
9	13 54 56.24	1.8993	12 0 12.2	13.126	9	15 27 23.86	2.0078	21 14 29.9	9.659
10	13 56 47.86	1.9014	12 13 18.2	13.073	10	15 29 24.44	2.0117	21 24 6.7	9.567
11	13 58 39.61	1.9036	12 26 21.0	13.019	11	15 31 25.26	2.0157	21 33 37.9	9.473
12	14 0 31.49	1.9058	12 39 20.5	12.964	12	15 33 26.32	2.0196	21 43 3.5	9.380
13	14 2 23.50	1.9080	12 52 16.7	12.908	13	15 35 27.61	2.0234	21 52 23.5	9.286
14	14 4 15.65	1.9102	13 5 9.5	12.852	14	15 37 29.13	2.0273	22 1 37.8	9.191
15	14 6 7.93	1.9125	13 17 59.0	12.796	15	15 39 30.89	2.0311	22 10 46.4	9.095
16	14 8 0.35	1.9149	13 30 45.0	12.737	16	15 41 32.88	2.0352	22 19 49.2	8.998
17	14 9 52.92	1.9174	13 43 27.4	12.678	17	15 43 35.11	2.0393	22 28 46.2	8.901
18	14 11 45.64	1.9199	13 56 6.3	12.618	18	15 45 37.58	2.0433	22 37 37.3	8.802
19	14 13 38.51	1.9224	14 8 41.6	12.557	19	15 47 40.29	2.0471	22 46 22.5	8.703
20	14 15 31.53	1.9249	14 21 13.2	12.496	20	15 49 43.23	2.0510	22 55 1.7	8.604
21	14 17 24.70	1.9275	14 33 41.1	12.434	21	15 51 46.41	2.0550	23 3 35.0	8.504
22	14 19 18.03	1.9299	14 46 5.3	12.373	22	15 53 49.83	2.0590	23 12 2.2	8.402
23	14 21 11.53	1.9320	14 58 25.7	12.308	23	15 55 53.49	2.0630	23 20 23.2	8.300
24	14 23 5.19	1.9358	S. 15° 10' 42.2"	12.243	24	15 57 57.39	2.0670	S. 23° 28' 38.1"	8.196

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 5.					FRIDAY 7.				
0	15 57 57.39	2.0670	S. 23° 28' 38.1"	8.196	0	17 41 27.31	2.2330	S. 27° 49' 57.1"	2.443
1	16 0 1.53	2.0710	23 36 46.8	8.093	1	17 43 41.36	2.2354	27 52 19.7	2.309
2	16 2 5.91	2.0749	23 44 49.2	7.988	2	17 45 55.56	2.2378	27 54 34.2	2.174
3	16 4 10.52	2.0789	23 52 45.4	7.884	3	17 48 9.90	2.2401	27 56 40.6	2.039
4	16 6 15.37	2.0829	24 0 35.3	7.778	4	17 50 24.37	2.2423	27 58 38.9	1.904
5	16 8 20.47	2.0869	24 8 18.8	7.671	5	17 52 38.97	2.2444	28 0 29.1	1.769
6	16 10 25.80	2.0908	24 15 55.8	7.563	6	17 54 53.70	2.2466	28 2 11.2	1.634
7	16 12 31.37	2.0947	24 23 26.4	7.456	7	17 57 8.56	2.2486	28 3 45.1	1.497
8	16 14 37.17	2.0987	24 30 50.5	7.347	8	17 59 23.53	2.2505	28 5 10.8	1.359
9	16 16 43.21	2.1027	24 38 8.0	7.237	9	18 1 38.62	2.2524	28 6 28.2	1.221
10	16 18 49.49	2.1066	24 45 18.9	7.126	10	18 3 53.82	2.2542	28 7 37.4	1.084
11	16 20 56.00	2.1104	24 52 23.1	7.015	11	18 6 9.13	2.2560	28 8 38.3	0.947
12	16 23 2.74	2.1143	24 59 20.7	6.904	12	18 8 24.54	2.2577	28 9 31.0	0.809
13	16 25 9.72	2.1182	25 6 11.6	6.791	13	18 10 40.05	2.2593	28 10 15.4	0.670
14	16 27 16.93	2.1221	25 12 55.6	6.677	14	18 12 55.65	2.2609	28 10 51.4	0.531
15	16 29 24.37	2.1259	25 19 32.8	6.563	15	18 15 11.35	2.2624	28 11 19.1	0.392
16	16 31 32.04	2.1297	25 26 3.2	6.449	16	18 17 27.14	2.2637	28 11 38.5	0.253
17	16 33 39.94	2.1335	25 32 26.7	6.333	17	18 19 43.00	2.2650	28 11 49.5	- 0.113
18	16 35 48.06	2.1373	25 38 43.2	6.217	18	18 21 58.94	2.2663	28 11 52.1	+ 0.027
19	16 37 56.41	2.1410	25 44 52.7	6.100	19	18 24 14.96	2.2675	28 11 46.3	0.167
20	16 40 4.98	2.1447	25 50 55.2	5.983	20	18 26 31.04	2.2686	28 11 32.1	0.307
21	16 42 13.78	2.1485	25 56 50.7	5.866	21	18 28 47.19	2.2697	28 11 9.5	0.447
22	16 44 22.80	2.1522	26 2 39.1	5.747	22	18 31 3.40	2.2707	28 10 38.4	0.588
23	16 46 32.04	2.1558	S. 26° 8' 20.3"	5.628	23	18 33 19.67	2.2716	S. 28° 9' 58.9"	0.729
THURSDAY 6.					SATURDAY 8.				
0	16 48 41.49	2.1593	S. 26° 13' 54.2"	5.505	0	18 35 35.99	2.2723	S. 28° 9' 10.9"	0.871
1	16 50 51.16	2.1629	26 19 20.9	5.385	1	18 37 52.35	2.2731	28 8 14.4	1.019
2	16 53 1.04	2.1665	26 24 40.4	5.264	2	18 40 8.76	2.2738	28 7 9.5	1.153
3	16 55 11.14	2.1700	26 29 52.6	5.142	3	18 42 25.21	2.2744	28 5 56.1	1.294
4	16 57 21.44	2.1734	26 34 57.5	5.020	4	18 44 41.69	2.2749	28 4 34.2	1.436
5	16 59 31.95	2.1768	26 39 55.0	4.896	5	18 46 58.20	2.2754	28 3 3.8	1.577
6	17 1 42.66	2.1802	26 44 45.0	4.772	6	18 49 14.74	2.2758	28 1 24.9	1.719
7	17 3 53.57	2.1835	26 49 27.6	4.647	7	18 51 31.30	2.2761	27 59 37.5	1.861
8	17 6 4.68	2.1868	26 54 2.7	4.522	8	18 53 47.87	2.2764	27 57 41.6	2.002
9	17 8 15.99	2.1901	26 58 30.2	4.396	9	18 56 4.46	2.2766	27 55 37.2	2.144
10	17 10 27.49	2.1934	27 2 50.2	4.270	10	18 58 21.06	2.2767	27 53 24.3	2.287
11	17 12 39.19	2.1966	27 7 2.6	4.143	11	19 0 37.66	2.2767	27 51 2.8	2.429
12	17 14 51.08	2.1997	27 11 7.3	4.015	12	19 2 54.26	2.2767	27 48 32.8	2.571
13	17 17 3.15	2.2027	27 15 4.4	3.887	13	19 5 10.86	2.2766	27 45 54.3	2.712
14	17 19 15.41	2.2057	27 18 53.8	3.758	14	19 7 27.45	2.2763	27 43 7.3	2.854
15	17 21 27.84	2.2087	27 22 35.4	3.629	15	19 9 44.02	2.2760	27 40 11.8	2.996
16	17 23 40.45	2.2116	27 26 9.3	3.500	16	19 12 0.57	2.2758	27 37 7.8	3.138
17	17 25 53.23	2.2145	27 29 35.4	3.370	17	19 14 17.11	2.2755	27 33 55.3	3.280
18	17 28 6.19	2.2173	27 32 53.7	3.239	18	19 16 33.63	2.2751	27 30 34.2	3.422
19	17 30 19.31	2.2200	27 36 4.1	3.108	19	19 18 50.12	2.2745	27 27 4.6	3.563
20	17 32 32.59	2.2227	27 39 6.6	2.976	20	19 21 6.57	2.2738	27 23 26.6	3.704
21	17 34 46.04	2.2254	27 42 1.2	2.844	21	19 23 22.98	2.2732	27 19 40.1	3.846
22	17 36 59.64	2.2280	27 44 47.9	2.711	22	19 25 39.35	2.2725	27 15 45.1	3.987
23	17 39 13.40	2.2306	27 47 26.5	2.577	23	19 27 55.68	2.2717	27 11 41.7	4.128
24	17 41 27.31	2.2330	S. 27° 49' 57.1"	2.443	24	19 30 11.96	2.2709	S. 27° 7' 29.8"	4.268

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 9.					TUESDAY 11.				
0	19 30 11.96	2.3709	S. 27° 7' 29.8"	4.368	0	21 17 20.36	2.1814	S. 21° 6' 26.7"	10.506
1	19 32 28.19	2.3700	27 3 9.5	4.409	1	21 19 31.17	2.1790	20 55 47.4	10.714
2	19 34 44.36	2.3691	26 58 40.7	4.550	2	21 21 41.84	2.1767	20 45 1.0	10.832
3	19 37 0.48	2.3682	26 54 3.5	4.690	3	21 23 52.38	2.1745	20 34 7.6	10.948
4	19 39 16.54	2.3671	26 49 17.9	4.830	4	21 26 2.78	2.1722	20 23 7.2	11.065
5	19 41 32.53	2.3660	26 44 23.9	4.970	5	21 28 13.04	2.1698	20 11 59.8	11.181
6	19 43 48.44	2.3646	26 39 21.5	5.110	6	21 30 23.16	2.1675	20 0 45.5	11.295
7	19 46 4.28	2.3634	26 34 10.7	5.249	7	21 32 33.14	2.1653	19 49 24.4	11.409
8	19 48 20.05	2.3621	26 28 51.6	5.388	8	21 34 42.99	2.1631	19 37 56.5	11.522
9	19 50 35.74	2.3608	26 23 24.2	5.526	9	21 36 52.71	2.1609	19 26 21.8	11.634
10	19 52 51.35	2.3594	26 17 48.5	5.665	10	21 39 2.30	2.1587	19 14 40.4	11.745
11	19 55 6.87	2.3579	26 12 4.4	5.804	11	21 41 11.75	2.1564	19 2 52.4	11.855
12	19 57 22.30	2.3564	26 6 12.0	5.942	12	21 43 21.07	2.1542	18 50 57.8	11.964
13	19 59 37.64	2.3549	26 0 11.4	6.079	13	21 45 30.26	2.1521	18 38 56.7	12.073
14	20 1 52.89	2.3533	25 54 2.5	6.217	14	21 47 39.32	2.1500	18 26 49.0	12.182
15	20 4 8.04	2.3517	25 47 45.4	6.355	15	21 49 48.26	2.1479	18 14 34.8	12.290
16	20 6 23.09	2.3500	25 41 20.1	6.493	16	21 51 57.07	2.1458	18 2 14.2	12.398
17	20 8 38.04	2.3482	25 34 46.7	6.631	17	21 54 5.76	2.1437	17 49 47.3	12.501
18	20 10 52.88	2.3464	25 28 5.1	6.761	18	21 56 14.32	2.1417	17 37 14.1	12.606
19	20 13 7.61	2.3447	25 21 15.4	6.896	19	21 58 22.76	2.1397	17 24 34.6	12.710
20	20 15 22.24	2.3429	25 14 17.6	7.039	20	22 0 31.09	2.1378	17 11 48.9	12.812
21	20 17 36.76	2.3410	25 7 11.6	7.187	21	22 2 39.30	2.1359	16 58 57.1	12.914
22	20 19 51.16	2.3390	24 59 57.5	7.301	22	22 4 47.40	2.1340	16 45 59.2	13.015
23	20 22 5.44	2.3370	S. 24 52 35.5	7.434	23	22 6 55.38	2.1321	S. 16 32 55.3	13.115
MONDAY 10.					WEDNESDAY 12.				
0	20 24 19.60	2.3350	S. 24 45 5.5	7.567	0	22 9 3.25	2.1303	S. 16 19 45.4	13.215
1	20 26 33.64	2.3330	24 37 27.5	7.699	1	22 11 11.01	2.1286	16 6 29.5	13.313
2	20 28 47.56	2.3310	24 29 41.6	7.832	2	22 13 18.67	2.1267	15 53 7.8	13.410
3	20 31 1.36	2.3289	24 21 47.7	7.964	3	22 15 26.22	2.1250	15 39 40.3	13.506
4	20 33 15.03	2.3268	24 13 45.9	8.095	4	22 17 33.67	2.1233	15 26 7.1	13.602
5	20 35 28.58	2.3247	24 5 36.3	8.226	5	22 19 41.02	2.1217	15 12 28.1	13.697
6	20 37 42.00	2.3226	23 57 18.9	8.355	6	22 21 48.28	2.1202	14 58 43.5	13.790
7	20 39 55.29	2.3204	23 48 53.7	8.485	7	22 23 55.44	2.1186	14 44 53.3	13.883
8	20 42 8.45	2.3182	23 40 20.7	8.614	8	22 26 2.51	2.1171	14 30 57.6	13.973
9	20 44 21.47	2.3159	23 31 40.0	8.742	9	22 28 9.50	2.1157	14 16 56.5	14.063
10	20 46 34.36	2.3137	23 22 51.6	8.870	10	22 30 16.40	2.1143	14 2 50.0	14.153
11	20 48 47.11	2.3114	23 13 55.6	8.998	11	22 32 23.22	2.1129	13 48 38.1	14.241
12	20 50 59.73	2.3091	23 4 51.9	9.125	12	22 34 29.95	2.1116	13 34 21.0	14.329
13	20 53 12.21	2.3068	22 55 40.6	9.251	13	22 36 36.61	2.1104	13 19 58.7	14.415
14	20 55 24.55	2.3046	22 46 21.8	9.376	14	22 38 43.20	2.1092	13 5 31.2	14.501
15	20 57 36.76	2.3023	22 36 55.5	9.501	15	22 40 49.72	2.1081	12 50 58.6	14.585
16	20 59 48.83	2.3000	22 27 21.7	9.625	16	22 42 56.17	2.1070	12 36 21.0	14.668
17	21 2 0.76	2.1977	22 17 40.5	9.749	17	22 45 2.56	2.1059	12 21 38.4	14.750
18	21 4 12.55	2.1953	22 7 51.8	9.873	18	22 47 8.88	2.1049	12 6 51.0	14.830
19	21 6 24.20	2.1930	21 57 55.7	9.995	19	22 49 15.15	2.1041	11 51 58.8	14.910
20	21 8 35.71	2.1907	21 47 52.4	10.116	20	22 51 21.37	2.1033	11 37 1.8	14.989
21	21 10 47.08	2.1883	21 37 41.8	10.237	21	22 53 27.53	2.1025	11 22 0.1	15.068
22	21 12 58.31	2.1860	21 27 23.9	10.357	22	22 55 33.64	2.1015	11 6 53.8	15.142
23	21 15 9.40	2.1837	21 16 58.9	10.477	23	22 57 39.71	2.1009	10 51 43.0	15.218
24	21 17 20.36	2.1814	S. 21 6 26.7	10.596	24	22 59 45.75	2.1003	S. 10 36 27.7	15.292

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 13.					SATURDAY 15.				
0	^h 22 ^m 59 ^s 45.75	2.1003	S. 10° 36' 27.7"	15.398	0	^h 0 41 ^m 10.41	2.1545	N. 2° 37' 40.8"	17.330
1	23 1 51.75	2.0997	10 21 8.0	15.364	1	0 43 19.77	2.1576	2 54 54.7	17.339
2	23 3 57.72	2.0999	10 5 44.0	15.436	2	0 45 29.32	2.1608	3 12 8.6	17.321
3	23 6 3.65	2.0987	9 50 15.7	15.507	3	0 47 39.06	2.1640	3 29 22.4	17.298
4	23 8 9.56	2.0983	9 34 43.2	15.576	4	0 49 49.00	2.1673	3 46 36.0	17.294
5	23 10 15.45	2.0981	9 19 6.6	15.644	5	0 51 59.14	2.1707	4 3 49.3	17.219
6	23 12 21.33	2.0979	9 3 25.9	15.711	6	0 54 9.48	2.1741	4 21 2.3	17.212
7	23 14 27.19	2.0977	8 47 41.3	15.776	7	0 56 20.03	2.1777	4 38 14.7	17.202
8	23 16 33.05	2.0976	8 31 52.8	15.841	8	0 58 30.80	2.1814	4 55 26.5	17.191
9	23 18 38.90	2.0975	8 16 0.4	15.904	9	1 0 41.80	2.1851	5 12 37.6	17.178
10	23 20 44.75	2.0975	8 0 4.3	15.965	10	1 2 53.02	2.1889	5 29 47.8	17.169
11	23 22 50.60	2.0976	7 44 4.6	16.025	11	1 5 4.47	2.1928	5 46 57.0	17.144
12	23 24 56.46	2.0978	7 28 1.3	16.084	12	1 7 16.16	2.1968	6 4 5.1	17.135
13	23 27 2.33	2.0980	7 11 54.5	16.142	13	1 9 28.09	2.2008	6 21 12.0	17.104
14	23 29 8.22	2.0983	6 55 44.3	16.198	14	1 11 40.26	2.2049	6 38 17.6	17.090
15	23 31 14.13	2.0987	6 39 30.7	16.254	15	1 13 52.68	2.2092	6 55 21.8	17.057
16	23 33 20.07	2.0991	6 23 13.8	16.307	16	1 16 5.36	2.2135	7 12 24.4	17.039
17	23 35 26.03	2.0996	6 6 53.8	16.359	17	1 18 18.30	2.2178	7 29 25.3	17.001
18	23 37 32.02	2.1002	5 50 30.7	16.410	18	1 20 31.50	2.2222	7 46 24.5	16.970
19	23 39 38.05	2.1009	5 34 4.6	16.460	19	1 22 44.97	2.2266	8 3 21.7	16.937
20	23 41 44.13	2.1017	5 17 35.5	16.508	20	1 24 58.72	2.2314	8 20 16.9	16.903
21	23 43 50.25	2.1024	5 1 3.6	16.555	21	1 27 12.74	2.2360	8 37 10.0	16.866
22	23 45 56.42	2.1033	4 44 28.9	16.600	22	1 29 27.04	2.2407	8 54 0.8	16.826
23	23 48 2.65	2.1043	S. 4 27 51.6	16.643	23	1 31 41.63	2.2456	N. 9 10 49.1	16.784
FRIDAY 14.					SUNDAY 16.				
0	23 50 8.94	2.1053	S. 4 11 11.7	16.688	0	1 33 56.52	2.2506	N. 9 27 34.9	16.741
1	23 52 15.29	2.1065	3 54 29.3	16.727	1	1 36 11.70	2.2555	9 44 18.0	16.696
2	23 54 21.72	2.1077	3 37 44.5	16.767	2	1 38 27.18	2.2605	10 0 58.4	16.649
3	23 56 28.22	2.1090	3 20 57.3	16.805	3	1 40 42.96	2.2656	10 17 35.9	16.600
4	23 58 34.80	2.1103	3 4 7.9	16.841	4	1 42 59.05	2.2708	10 34 10.4	16.548
5	0 0 41.46	2.1117	2 47 16.4	16.875	5	1 45 15.46	2.2761	10 50 41.7	16.494
6	0 2 48.21	2.1132	2 30 22.9	16.908	6	1 47 32.18	2.2814	11 7 9.7	16.438
7	0 4 55.05	2.1148	2 13 27.4	16.940	7	1 49 49.22	2.2867	11 23 34.3	16.381
8	0 7 1.99	2.1166	1 56 30.1	16.970	8	1 52 6.59	2.2922	11 39 55.4	16.321
9	0 9 9.04	2.1184	1 39 31.0	16.999	9	1 54 24.28	2.2977	11 56 12.8	16.258
10	0 11 16.20	2.1202	1 22 30.2	17.027	10	1 56 42.31	2.3032	12 12 26.4	16.194
11	0 13 23.47	2.1221	1 5 27.8	17.055	11	1 59 0.67	2.3088	12 28 36.1	16.128
12	0 15 30.85	2.1241	0 48 24.0	17.075	12	2 1 19.37	2.3145	12 44 41.7	16.059
13	0 17 38.36	2.1262	0 31 18.8	17.097	13	2 3 38.41	2.3203	13 0 43.2	15.988
14	0 19 45.99	2.1283	S. 0 14 12.3	17.118	14	2 5 57.80	2.3261	13 16 40.3	15.915
15	0 21 53.75	2.1305	N. 0 2 55.4	17.137	15	2 8 17.54	2.3319	13 32 33.0	15.840
16	0 24 1.65	2.1329	0 20 4.2	17.154	16	2 10 37.63	2.3378	13 48 21.1	15.769
17	0 26 9.70	2.1353	0 37 13.9	17.169	17	2 12 58.08	2.3438	14 4 4.5	15.693
18	0 28 17.89	2.1378	0 54 24.5	17.183	18	2 15 18.89	2.3498	14 19 43.1	15.609
19	0 30 26.24	2.1404	1 11 35.9	17.196	19	2 17 40.06	2.3558	14 35 16.7	15.518
20	0 32 34.74	2.1430	1 28 48.0	17.208	20	2 20 1.59	2.3619	14 50 45.2	15.429
21	0 34 43.40	2.1458	1 46 0.6	17.214	21	2 22 23.49	2.3681	15 6 8.5	15.343
22	0 36 52.23	2.1486	2 3 13.7	17.221	22	2 24 45.76	2.3743	15 21 26.4	15.259
23	0 39 1.23	2.1515	2 20 27.1	17.226	23	2 27 8.40	2.3805	15 36 38.8	15.169
24	0 41 10.41	2.1545	N. 2 37 40.8	17.230	24	2 29 31.42	2.3867	N. 15 51 45.6	15.066

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 17.					WEDNESDAY 19.				
0	2 29 31.42	2.3987	N.15° 51' 45.6"	15.065	0	4 31 18.38	2.6790	N.25° 25' 39.1"	6.110
1	2 31 54.81	2.3930	16 6 46.6	14.968	1	4 33 58.83	2.6792	25 33 40.1	7.923
2	2 34 18.58	2.3993	16 21 41.7	14.869	2	4 36 39.52	2.6809	25 41 29.9	7.735
3	2 36 42.73	2.4057	16 36 30.9	14.768	3	4 39 20.45	2.6841	25 49 8.3	7.545
4	2 39 7.26	2.4181	16 51 13.9	14.664	4	4 42 1.61	2.6879	25 56 35.3	7.354
5	2 41 32.18	2.4185	17 5 50.6	14.558	5	4 44 43.00	2.6916	26 3 50.8	7.162
6	2 43 57.48	2.4249	17 20 20.9	14.450	6	4 47 24.60	2.6951	26 10 54.8	6.970
7	2 46 23.17	2.4313	17 34 44.6	14.339	7	4 50 6.41	2.6984	26 17 47.2	6.777
8	2 48 49.24	2.4377	17 49 1.6	14.227	8	4 52 48.41	2.7016	26 24 28.0	6.586
9	2 51 15.70	2.4442	18 3 11.9	14.113	9	4 55 30.60	2.7047	26 30 57.0	6.398
10	2 53 42.55	2.4507	18 17 15.2	13.998	10	4 58 12.97	2.7075	26 37 14.3	6.199
11	2 56 9.79	2.4572	18 31 11.4	13.878	11	5 0 55.50	2.7102	26 43 19.8	5.998
12	2 58 37.42	2.4637	18 45 0.5	13.757	12	5 3 38.19	2.7128	26 49 13.4	5.794
13	3 1 5.44	2.4702	18 58 42.2	13.633	13	5 6 21.03	2.7152	26 54 55.1	5.585
14	3 3 33.85	2.4767	19 12 16.5	13.506	14	5 9 4.01	2.7174	27 0 24.8	5.366
15	3 6 2.64	2.4832	19 25 43.2	13.381	15	5 11 47.12	2.7195	27 5 42.6	5.136
16	3 8 31.83	2.4897	19 39 2.2	13.252	16	5 14 30.35	2.7213	27 10 48.3	4.904
17	3 11 1.41	2.4962	19 52 13.4	13.120	17	5 17 13.68	2.7230	27 15 41.9	4.783
18	3 13 31.37	2.5026	20 5 16.6	12.987	18	5 19 57.11	2.7246	27 20 23.4	4.591
19	3 16 1.72	2.5091	20 18 11.8	12.851	19	5 22 40.63	2.7260	27 24 52.8	4.398
20	3 18 32.46	2.5156	20 30 58.7	12.713	20	5 25 24.22	2.7271	27 29 10.0	4.186
21	3 21 3.59	2.5220	20 43 37.3	12.573	21	5 28 7.88	2.7281	27 33 15.1	3.963
22	3 23 35.10	2.5283	20 56 7.5	12.432	22	5 30 51.59	2.7288	27 37 8.0	3.779
23	3 26 6.98	2.5346	N.21 8 29.1	12.288	23	5 33 35.34	2.7294	N.27 40 48.6	3.575
TUESDAY 18.					THURSDAY 20.				
0	3 28 39.25	2.5410	N.21 20 42.1	12.149	0	5 36 19.12	2.7298	N.27 44 17.0	3.372
1	3 31 11.90	2.5473	21 32 46.2	11.994	1	5 39 2.92	2.7301	27 47 33.2	3.167
2	3 33 44.92	2.5534	21 44 41.4	11.845	2	5 41 46.73	2.7309	27 50 37.1	2.953
3	3 36 18.31	2.5596	21 56 27.6	11.693	3	5 44 30.54	2.7300	27 53 28.8	2.750
4	3 38 52.07	2.5657	22 8 4.6	11.540	4	5 47 14.33	2.7297	27 56 8.2	2.555
5	3 41 26.20	2.5718	22 19 32.4	11.385	5	5 49 58.10	2.7292	27 58 35.4	2.351
6	3 44 0.69	2.5778	22 30 50.8	11.227	6	5 52 41.83	2.7284	28 0 50.3	2.147
7	3 46 35.54	2.5838	22 41 59.7	11.068	7	5 55 25.51	2.7275	28 2 53.0	1.942
8	3 49 10.74	2.5897	22 52 59.0	10.907	8	5 58 9.13	2.7264	28 4 43.4	1.738
9	3 51 46.30	2.5956	23 3 48.6	10.745	9	6 0 52.68	2.7252	28 6 21.6	1.535
10	3 54 22.21	2.6019	23 14 28.4	10.580	10	6 3 36.15	2.7238	28 7 47.6	1.330
11	3 56 58.45	2.6082	23 24 58.2	10.413	11	6 6 19.53	2.7221	28 9 1.4	1.126
12	3 59 35.03	2.6144	23 35 18.0	10.246	12	6 9 2.80	2.7202	28 10 3.0	0.926
13	4 2 11.94	2.6180	23 45 27.7	10.077	13	6 11 45.95	2.7189	28 10 52.5	0.724
14	4 4 49.19	2.6225	23 55 27.2	9.905	14	6 14 28.98	2.7170	28 11 29.9	0.522
15	4 7 26.76	2.6268	24 5 16.3	9.732	15	6 17 11.57	2.7156	28 11 55.1	0.320
16	4 10 4.64	2.6340	24 14 55.0	9.558	16	6 19 54.61	2.7110	28 12 8.3	+ 0.120
17	4 12 42.84	2.6392	24 24 23.3	9.382	17	6 22 37.19	2.7082	28 12 9.5	- 0.081
18	4 15 21.34	2.6443	24 33 40.9	9.204	18	6 25 19.60	2.7053	28 11 58.6	0.961
19	4 18 0.14	2.6491	24 42 47.8	9.026	19	6 28 1.83	2.7022	28 11 35.8	0.479
20	4 20 39.23	2.6539	24 51 44.0	8.846	20	6 30 43.86	2.6988	28 11 1.1	0.677
21	4 23 18.61	2.6586	25 0 29.3	8.663	21	6 33 25.69	2.6954	28 10 14.6	0.274
22	4 25 58.26	2.6632	25 9 3.6	8.480	22	6 36 7.31	2.6918	28 9 16.2	1.471
23	4 28 38.19	2.6677	25 17 26.9	8.296	23	6 38 48.71	2.6880	28 8 6.0	1.967
24	4 31 18.38	2.6720	N.25 25 39.1	8.110	24	6 41 29.87	2.6840	N.28 6 44.2	1.461

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 21.					SUNDAY 23.				
0	6 41 29.87	2.6840	N.28 6 44.2	1.481	0	8 43 19.00	2.3597	N.23 35 55.5	9.344
1	6 44 10.79	2.6798	28 5 10.7	1.655	1	8 45 40.34	2.3517	23 26 37.1	9.367
2	6 46 51.45	2.6755	28 3 25.6	1.848	2	8 48 1.20	2.3437	23 17 11.4	9.488
3	6 49 31.85	2.6711	28 1 28.9	2.041	3	8 50 21.58	2.3356	23 7 38.5	9.608
4	6 52 11.98	2.6668	27 59 20.7	2.233	4	8 52 41.47	2.3275	22 57 58.5	9.736
5	6 54 51.83	2.6617	27 57 1.1	2.421	5	8 55 0.88	2.3195	22 48 11.4	9.849
6	6 57 31.38	2.6567	27 54 30.2	2.609	6	8 57 19.81	2.3115	22 38 17.4	9.957
7	7 0 10.63	2.6516	27 51 48.0	2.797	7	8 59 38.26	2.3035	22 28 16.6	10.069
8	7 2 49.57	2.6464	27 48 54.5	2.985	8	9 1 56.23	2.2955	22 18 9.1	10.181
9	7 5 28.20	2.6411	27 45 49.8	3.170	9	9 4 13.72	2.2875	22 7 54.9	10.291
10	7 8 6.50	2.6356	27 42 34.1	3.354	10	9 6 30.73	2.2796	21 57 34.2	10.398
11	7 10 44.47	2.6299	27 39 7.4	3.537	11	9 8 47.27	2.2717	21 47 7.1	10.505
12	7 13 22.09	2.6241	27 35 29.7	3.718	12	9 11 3.33	2.2638	21 36 33.6	10.610
13	7 15 59.36	2.6189	27 31 41.2	3.898	13	9 13 18.92	2.2559	21 25 53.9	10.713
14	7 18 36.28	2.6128	27 27 41.9	4.077	14	9 15 34.04	2.2481	21 15 8.1	10.814
15	7 21 12.83	2.6061	27 23 31.9	4.255	15	9 17 48.70	2.2404	21 4 16.2	10.914
16	7 23 49.01	2.5998	27 19 11.3	4.432	16	9 20 2.89	2.2327	20 53 18.4	11.019
17	7 26 24.81	2.5934	27 14 40.1	4.607	17	9 22 16.62	2.2250	20 42 14.7	11.109
18	7 29 0.22	2.5869	27 9 58.5	4.779	18	9 24 29.89	2.2173	20 31 5.3	11.204
19	7 31 35.24	2.5803	27 5 6.6	4.951	19	9 26 42.70	2.2097	20 19 50.2	11.298
20	7 34 9.86	2.5737	27 0 4.4	5.128	20	9 28 55.06	2.2021	20 8 29.5	11.390
21	7 36 44.08	2.5669	26 54 52.0	5.291	21	9 31 6.96	2.1946	19 57 3.4	11.480
22	7 39 17.89	2.5600	26 49 29.5	5.458	22	9 33 18.41	2.1879	19 45 31.9	11.570
23	7 41 51.28	2.5529	N.26 43 57.0	5.624	23	9 35 29.42	2.1798	N.19 33 55.0	11.657
SATURDAY 22.					MONDAY 24.				
0	7 44 24.24	2.5458	N.26 38 14.6	5.788	0	9 37 39.98	2.1724	N.19 22 13.0	11.749
1	7 46 56.78	2.5387	26 32 22.4	5.951	1	9 39 50.10	2.1651	19 10 25.9	11.837
2	7 49 28.89	2.5315	26 26 20.5	6.112	2	9 41 59.79	2.1578	18 58 33.7	11.911
3	7 52 0.56	2.5242	26 20 8.9	6.272	3	9 44 9.04	2.1506	18 46 36.6	11.999
4	7 54 31.79	2.5168	26 13 47.8	6.431	4	9 46 17.86	2.1434	18 34 34.7	12.079
5	7 57 2.58	2.5094	26 7 17.2	6.587	5	9 48 26.25	2.1363	18 22 28.0	12.150
6	7 59 32.92	2.5019	26 0 37.3	6.742	6	9 50 34.22	2.1293	18 10 16.7	12.227
7	8 2 2.80	2.4943	25 53 48.2	6.895	7	9 52 41.77	2.1224	17 58 0.8	12.303
8	8 4 32.23	2.4867	25 46 49.9	7.047	8	9 54 48.91	2.1155	17 45 40.4	12.378
9	8 7 1.20	2.4790	25 39 42.6	7.197	9	9 56 55.63	2.1087	17 33 15.5	12.451
10	8 9 29.71	2.4712	25 32 26.3	7.345	10	9 59 1.95	2.1019	17 20 46.3	12.522
11	8 11 57.75	2.4634	25 25 1.2	7.492	11	10 1 7.86	2.0952	17 8 12.9	12.591
12	8 14 25.32	2.4556	25 17 27.3	7.637	12	10 3 13.37	2.0886	16 55 35.4	12.659
13	8 16 52.42	2.4478	25 9 44.8	7.780	13	10 5 18.49	2.0820	16 42 53.8	12.737
14	8 19 19.05	2.4399	25 1 53.7	7.922	14	10 7 23.21	2.0754	16 30 8.2	12.793
15	8 21 45.21	2.4320	24 53 54.2	8.061	15	10 9 27.54	2.0689	16 17 18.6	12.858
16	8 24 10.89	2.4239	24 45 46.4	8.199	16	10 11 31.49	2.0627	16 4 25.2	12.921
17	8 26 36.08	2.4159	24 37 30.3	8.336	17	10 13 35.07	2.0565	15 51 28.1	12.989
18	8 29 0.80	2.4080	24 29 6.1	8.471	18	10 15 38.27	2.0503	15 38 27.4	13.049
19	8 31 25.04	2.4000	24 20 31.8	8.604	19	10 17 41.10	2.0441	15 25 23.1	13.109
20	8 33 48.80	2.3919	24 11 53.6	8.735	20	10 19 43.56	2.0380	15 12 15.2	13.160
21	8 36 12.07	2.3838	24 3 5.6	8.865	21	10 21 45.66	2.0320	14 59 3.9	13.216
22	8 38 34.86	2.3758	23 54 9.8	8.993	22	10 23 47.40	2.0261	14 45 49.3	13.279
23	8 40 57.17	2.3678	23 45 6.4	9.119	23	10 25 48.79	2.0203	14 32 31.3	13.337
24	8 43 19.00	2.3597	N.23 35 55.5	9.244	24	10 27 49.83	2.0145	N.14 19 10.1	13.379

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 25.					THURSDAY 27.				
0	^h 10 ^m 27 ^s 49.83	2.0145	N. 14° 19' 10.1"	13.379	0	^h 11 ^m 59 ^s 22.54	1.8304	N. 2° 57' 49.4"	14.614
1	10 29 50.53	2.0088	14 5 45.8	13.430	1	12 1 12.30	1.8285	2 43 12.5	14.615
2	10 31 50.89	2.0032	13 52 18.5	13.480	2	12 3 1.96	1.8267	2 28 35.6	14.616
3	10 33 50.91	1.9976	13 38 48.2	13.529	3	12 4 51.51	1.8250	2 13 58.6	14.616
4	10 35 50.60	1.9922	13 25 15.0	13.577	4	12 6 40.96	1.8233	1 59 21.7	14.615
5	10 37 49.97	1.9868	13 11 38.9	13.624	5	12 8 30.31	1.8217	1 44 44.8	14.614
6	10 39 49.02	1.9815	12 58 0.1	13.669	6	12 10 19.56	1.8200	1 30 8.0	14.613
7	10 41 47.75	1.9763	12 44 18.6	13.713	7	12 12 8.73	1.8187	1 15 31.4	14.608
8	10 43 46.17	1.9711	12 30 34.5	13.756	8	12 13 57.81	1.8174	1 0 55.1	14.603
9	10 45 44.28	1.9660	12 16 47.9	13.798	9	12 15 46.81	1.8161	0 46 19.1	14.598
10	10 47 42.09	1.9611	12 2 58.8	13.839	10	12 17 35.74	1.8148	0 31 43.4	14.592
11	10 49 39.61	1.9562	11 49 7.2	13.879	11	12 19 24.59	1.8136	0 17 8.1	14.584
12	10 51 36.83	1.9513	11 35 13.3	13.917	12	12 21 13.37	1.8125	N. 0 2 33.3	14.576
13	10 53 33.76	1.9465	11 21 17.2	13.954	13	12 23 2.09	1.8116	S. 0 12 1.0	14.568
14	10 55 30.41	1.9419	11 7 18.8	13.991	14	12 24 50.76	1.8107	0 26 34.8	14.559
15	10 57 26.79	1.9373	10 53 18.3	14.026	15	12 26 39.37	1.8098	0 41 8.1	14.549
16	10 59 22.89	1.9327	10 39 15.7	14.060	16	12 28 27.93	1.8090	0 55 40.7	14.537
17	11 1 18.72	1.9283	10 25 11.1	14.092	17	12 30 16.45	1.8083	1 10 12.6	14.525
18	11 3 14.29	1.9240	10 11 4.6	14.124	18	12 32 4.93	1.8077	1 24 43.7	14.513
19	11 5 9.60	1.9197	9 56 56.2	14.155	19	12 33 53.37	1.8071	1 39 14.0	14.498
20	11 7 4.66	1.9155	9 42 46.0	14.185	20	12 35 41.78	1.8066	1 53 43.5	14.484
21	11 8 59.46	1.9113	9 28 34.0	14.214	21	12 37 30.16	1.8061	2 8 12.1	14.468
22	11 10 54.02	1.9073	9 14 20.3	14.242	22	12 39 18.51	1.8057	2 22 39.7	14.453
23	11 12 48.34	1.9034	N. 9 0 5.0	14.268	23	12 41 6.85	1.8055	S. 2 37 6.4	14.437
WEDNESDAY 26.					FRIDAY 28.				
0	11 14 42.43	1.8996	N. 8 45 48.2	14.293	0	12 42 55.17	1.8053	S. 2 51 32.1	14.419
1	11 16 36.29	1.8958	8 31 29.9	14.318	1	12 44 43.48	1.8052	3 5 56.7	14.400
2	11 18 29.92	1.8920	8 17 10.1	14.343	2	12 46 31.79	1.8051	3 20 20.1	14.380
3	11 20 23.33	1.8883	8 2 48.9	14.364	3	12 48 20.09	1.8050	3 34 42.3	14.359
4	11 22 16.52	1.8848	7 48 26.4	14.386	4	12 50 8.39	1.8051	3 49 3.2	14.338
5	11 24 9.51	1.8814	7 34 2.6	14.406	5	12 51 56.70	1.8052	4 3 22.9	14.317
6	11 26 2.29	1.8780	7 19 37.7	14.425	6	12 53 45.02	1.8054	4 17 41.3	14.295
7	11 27 54.87	1.8747	7 5 11.6	14.444	7	12 55 33.35	1.8057	4 31 58.3	14.271
8	11 29 47.25	1.8714	6 50 44.4	14.461	8	12 57 21.70	1.8060	4 46 13.8	14.246
9	11 31 39.44	1.8683	6 36 16.3	14.477	9	12 59 10.07	1.8064	5 0 27.8	14.221
10	11 33 31.45	1.8653	6 21 47.2	14.493	10	13 0 58.47	1.8069	5 14 40.3	14.195
11	11 35 23.27	1.8623	6 7 17.1	14.508	11	13 2 46.90	1.8074	5 28 51.2	14.168
12	11 37 14.91	1.8593	5 52 46.2	14.523	12	13 4 35.36	1.8080	5 43 0.5	14.141
13	11 39 6.38	1.8565	5 38 14.5	14.535	13	13 6 23.86	1.8087	5 57 8.1	14.112
14	11 40 57.69	1.8537	5 23 42.0	14.547	14	13 8 12.40	1.8094	6 11 14.0	14.083
15	11 42 48.83	1.8510	5 9 8.9	14.557	15	13 10 0.99	1.8102	6 25 18.1	14.053
16	11 44 39.81	1.8484	4 54 35.2	14.567	16	13 11 49.63	1.8111	6 39 20.4	14.022
17	11 46 30.64	1.8459	4 40 0.9	14.577	17	13 13 38.32	1.8119	6 53 20.8	13.990
18	11 48 21.32	1.8435	4 25 26.0	14.585	18	13 15 27.06	1.8129	7 7 19.2	13.958
19	11 50 11.86	1.8411	4 10 50.7	14.593	19	13 17 15.87	1.8140	7 21 15.7	13.925
20	11 52 2.26	1.8388	3 56 15.0	14.597	20	13 19 4.74	1.8151	7 35 10.2	13.891
21	11 53 52.52	1.8368	3 41 39.0	14.602	21	13 20 53.68	1.8163	7 49 2.6	13.856
22	11 55 42.65	1.8345	3 27 2.7	14.607	22	13 22 42.69	1.8175	8 2 52.9	13.820
23	11 57 32.66	1.8324	3 12 26.2	14.611	23	13 24 31.78	1.8188	8 16 41.0	13.783
24	11 59 22.54	1.8304	N. 2 57 49.4	14.614	24	13 26 20.95	1.8202	S. 8 30 26.9	13.746

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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SATURDAY 29.

0	^h ^m ^s	^s	S. [°] ['] ["]	["]
0	13 26 20.95	1.8909	8 30' 26.9	13.746
1	13 28 10.20	1.8916	8 44 10.5	13.708
2	13 29 59.54	1.8931	8 57 51.8	13.669
3	13 31 48.97	1.8947	9 11 30.8	13.630
4	13 33 38.50	1.8963	9 25 7.4	13.589
5	13 35 28.12	1.8978	9 38 41.5	13.547
6	13 37 17.84	1.8996	9 52 13.0	13.504
7	13 39 7.67	1.8314	10 5 42.0	13.461
8	13 40 57.61	1.8339	10 19 8.4	13.418
9	13 42 47.66	1.8351	10 32 32.2	13.374
10	13 44 37.82	1.8370	10 45 53.3	13.328
11	13 46 28.10	1.8391	10 59 11.6	13.281
12	13 48 18.51	1.8412	11 12 27.0	13.233
13	13 50 9.04	1.8433	11 25 39.6	13.186
14	13 51 59.70	1.8454	11 38 49.3	13.137
15	13 53 50.49	1.8477	11 51 56.1	13.088
16	13 55 41.42	1.8500	12 4 59.9	13.037
17	13 57 32.49	1.8523	12 18 0.6	12.986
18	13 59 23.69	1.8546	12 30 58.2	12.934
19	14 1 15.04	1.8571	12 43 52.7	12.881
20	14 3 6.54	1.8596	12 56 43.9	12.827
21	14 4 58.19	1.8621	13 9 31.9	12.772
22	14 6 49.99	1.8647	13 22 16.6	12.717
23	14 8 41.95	1.8673	S. 13 34 57.9	12.661

SUNDAY 30.

0	^h ^m ^s	^s	S. [°] ['] ["]	["]
0	14 10 34.07	1.8700	S. 13 47 35.9	12.605
1	14 12 26.35	1.8738	14 0 10.5	12.547
2	14 14 18.80	1.8756	14 12 41.5	12.487
3	14 16 11.42	1.8784	14 25 8.9	12.427
4	14 18 4.21	1.8813	14 37 32.7	12.367
5	14 19 57.17	1.8842	14 49 52.9	12.306
6	14 21 50.31	1.8872	15 2 9.4	12.244
7	14 23 43.63	1.8902	15 14 22.2	12.181
8	14 25 37.13	1.8933	15 26 31.1	12.117
9	14 27 30.81	1.8963	15 38 36.2	12.052
10	14 29 24.68	1.8994	15 50 37.4	11.987
11	14 31 18.74	1.9026	16 2 34.6	11.921
12	14 33 13.00	1.9059	16 14 27.9	11.854
13	14 35 7.45	1.9091	16 26 17.1	11.786
14	14 37 2.10	1.9124	16 38 2.2	11.717
15	14 38 56.94	1.9158	16 49 43.1	11.647
16	14 40 51.99	1.9192	17 1 19.8	11.577
17	14 42 47.24	1.9225	17 12 52.3	11.505
18	14 44 42.69	1.9259	17 24 20.4	11.433
19	14 46 38.35	1.9295	17 35 44.2	11.360
20	14 48 34.23	1.9331	17 47 3.6	11.286
21	14 50 30.32	1.9366	17 58 18.5	11.211
22	14 52 26.62	1.9402	18 9 28.9	11.135
23	14 54 23.14	1.9438	18 20 34.7	11.058
24	14 56 19.87	1.9474	S. 18 31 35.9	10.981

MONDAY, MAY 1.

0	^h ^m ^s	^s	S. [°] ['] ["]	["]
0	14 56 19.87	1.9474	S. 18 31' 35.9	10.981

PHASES OF THE MOON.

	d	h	m
☾ Last Quarter . . . April	8	23	35.3
● New Moon	16	2	34.5
☽ First Quarter	22	17	26.0
○ Full Moon	30	11	23.1

	d	h
☾ Apogee April	5	6.5
☾ Perigee	17	9.9

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Pollux W.	82° 21' 47"	2994	83° 54' 13"	2992	85° 26' 29"	2910	86° 58' 35"	2918
	Regulus W.	45 51 37	2914	47 23 38	2921	48 55 30	2926	50 27 13	2925
	Antares E.	54 20 18	2995	52 47 53	2903	51 15 37	2910	49 43 31	2918
	α Aquilæ E.	103 17 25	2790	102 2 12	2787	100 46 56	2786	99 31 39	2786
2	Pollux W.	94 36 41	2955	96 7 50	2992	97 38 51	2969	99 9 43	2975
	Regulus W.	58 3 40	2969	59 34 32	2975	61 5 16	2981	62 35 52	2969
	Antares E.	42 5 28	2956	40 34 20	2962	39 3 20	2969	37 32 29	2977
	α Aquilæ E.	93 15 32	2799	92 0 29	2805	90 45 32	2812	89 30 42	2819
3	Regulus W.	70 6 52	3019	71 36 41	3094	73 6 24	3030	74 36 0	3034
	SATURN W.	29 33 45	2980	31 4 23	2986	32 34 53	2992	34 5 16	2997
	α Aquilæ E.	83 18 38	2867	82 4 45	2879	80 51 4	2892	79 37 36	2907
4	Regulus W.	82 2 29	3058	83 31 30	3061	85 0 27	3065	86 29 19	3069
	SATURN W.	41 35 40	3020	43 5 28	3023	44 35 12	3027	46 4 51	3030
	Spica W.	27 59 43	3066	29 28 34	3069	30 57 22	3071	32 26 7	3073
	α Aquilæ E.	73 34 9	2989	72 22 19	4010	71 10 49	4031	69 59 40	4052
	Fomalhaut E.	100 26 38	2940	99 1 16	2942	97 35 56	2944	96 10 39	2947
5	Regulus W.	93 52 42	3082	95 21 14	3083	96 49 44	3084	98 18 13	3085
	SATURN W.	53 32 11	3043	55 1 30	3044	56 30 48	3046	58 0 4	3046
	Spica W.	39 49 19	3061	41 17 52	3082	42 46 23	3082	44 14 54	3082
	α Aquilæ E.	64 9 44	4186	63 1 5	4217	61 52 55	4251	60 45 17	4287
	Fomalhaut E.	89 4 54	2957	87 39 52	2959	86 14 53	2961	84 49 56	2963
6	SATURN W.	65 26 21	3045	66 55 38	3043	68 24 57	3041	69 54 19	3039
	Spica W.	51 37 32	3079	53 6 7	3078	54 34 44	3075	56 3 24	3073
	α Aquilæ E.	55 16 6	4506	54 12 19	4560	53 9 20	4618	52 7 11	4682
	Fomalhaut E.	77 45 38	2970	76 20 51	2970	74 56 5	2972	73 31 21	2972
	α Pegasi E.	98 45 18	2424	97 23 29	2490	96 1 35	2416	94 39 37	2413
7	SATURN W.	77 21 58	3022	78 51 44	3017	80 21 36	3011	81 51 35	3005
	Spica W.	63 27 37	3055	64 56 42	3049	66 25 54	3043	67 55 13	3038
	α Aquilæ E.	47 11 3	5062	46 15 12	5186	45 20 40	5299	44 27 32	5422
	Fomalhaut E.	66 27 49	2976	65 3 9	2976	63 38 29	2977	62 13 51	2977
	α Pegasi E.	87 48 43	2393	86 26 19	2390	85 3 51	2386	83 41 19	2382
	SUN E.	111 55 42	2423	110 33 51	2416	109 11 53	2411	107 49 49	2404
8	SATURN W.	89 23 28	2969	90 54 19	2962	92 25 20	2953	93 56 32	2943
	Spica W.	75 23 47	3001	76 53 58	2993	78 24 19	2984	79 54 52	2974
	Antares W.	29 20 40	3000	30 59 53	2992	32 30 16	2989	34 0 51	2973
	Fomalhaut E.	55 10 57	2986	53 46 29	2988	52 22 4	2992	50 57 43	2996
	α Pegasi E.	76 47 33	2364	75 24 35	2361	74 1 34	2358	72 38 29	2354
	SUN E.	100 57 27	2365	99 34 31	2356	98 11 24	2346	96 48 6	2336
9	SATURN W.	101 35 41	2891	103 8 12	2878	104 40 59	2866	106 14 2	2853
	Spica W.	87 30 46	2921	89 2 38	2909	90 34 46	2896	92 7 10	2883
	Antares W.	41 36 58	2918	43 8 54	2906	44 41 5	2894	46 13 32	2880
	Fomalhaut E.	43 57 37	2336	42 34 7	2348	41 10 51	2365	39 47 54	2383
	α Pegasi E.	65 42 15	2343	64 18 53	2342	62 55 30	2342	61 32 7	2343
	SUN E.	89 48 25	2377	88 23 47	2364	86 58 53	2351	85 33 44	2326

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Pollux W.	88° 30' 31"	2925	90° 2' 16"	2933	91° 33' 55"	2940	93° 5' 23"	2948
	Regulus W.	51 58 48	2943	53 30 14	2949	55 1 31	2955	56 32 40	2962
	Antares E.	48 11 35	2996	46 39 49	2933	45 8 12	2941	43 36 45	2949
	α Aquilæ E.	98 16 22	3787	97 1 6	3788	95 45 51	3792	94 30 40	3794
2	Pollux W.	100 40 27	2982	102 11 2	2989	103 41 29	2995	105 11 48	3001
	Regulus W.	64 6 19	2994	65 36 39	3001	67 6 51	3007	68 36 55	3013
	Antares E.	36 1 47	2984	34 31 14	2990	33 0 49	2997	31 30 33	3003
	α Aquilæ E.	88 15 59	3827	87 1 25	3835	85 46 59	3845	84 32 43	3856
3	Regulus W.	76 5 30	3039	77 34 54	3045	79 4 11	3049	80 33 23	3054
	SATURN W.	35 35 33	3003	37 5 43	3006	38 35 48	3011	40 5 47	3016
	α Aquilæ E.	78 24 23	3921	77 11 25	3937	75 58 43	3953	74 46 17	3971
4	Regulus W.	87 58 6	3079	89 26 50	3075	90 55 30	3078	92 24 7	3079
	SATURN W.	47 34 26	3034	49 3 57	3036	50 33 25	3039	52 2 49	3041
	Spica W.	33 54 50	3074	35 23 31	3077	36 52 9	3078	38 20 45	3080
	α Aquilæ E.	68 48 52	4076	67 38 27	4102	66 28 27	4128	65 18 52	4156
	Fomalhaut E.	94 45 25	3248	93 20 13	3251	91 55 4	3253	90 29 58	3255
5	Regulus W.	99 46 41	3086	101 15 8	3086	102 43 35	3086	104 12 2	3085
	SATURN W.	59 29 20	3047	60 58 35	3047	62 27 50	3047	63 57 5	3046
	Spica W.	45 43 25	3082	47 11 56	3082	48 40 27	3082	50 8 59	3081
	α Aquilæ E.	59 38 12	4325	58 31 42	4366	57 25 50	4409	56 20 37	4456
	Fomalhaut E.	83 25 1	3265	82 0 8	3265	80 35 16	3267	79 10 26	3269
6	SATURN W.	71 23 43	3036	72 53 11	3034	74 22 42	3030	75 52 18	3026
	Spica W.	57 32 6	3070	59 0 52	3067	60 29 42	3063	61 58 37	3059
	α Aquilæ E.	51 5 56	4750	50 5 38	4822	49 6 20	4902	48 8 7	4989
	Fomalhaut E.	72 6 37	3273	70 41 54	3274	69 17 12	3274	67 52 30	3275
	α Pegasi E.	93 17 35	3409	91 55 29	3405	90 33 18	3401	89 11 3	3397
7	SATURN W.	83 21 41	2999	84 51 55	2993	86 22 17	2985	87 52 48	2978
	Spica W.	69 24 39	3031	70 54 13	3025	72 23 55	3018	73 53 46	3009
	α Aquilæ E.	43 35 53	5559	42 45 50	5707	41 57 28	5874	41 10 55	6056
	Fomalhaut E.	60 49 13	3278	59 24 36	3280	58 0 1	3282	56 35 28	3283
	α Pegasi E.	82 18 42	3379	80 56 1	3375	79 33 16	3372	78 10 27	3367
	SUN E.	106 27 37	3398	105 5 18	3390	103 42 50	3382	102 20 13	3374
8	SATURN W.	95 27 56	2933	96 59 33	2994	98 31 22	2913	100 3 24	2901
	Spica W.	81 25 37	2965	82 56 34	2954	84 27 44	2943	85 59 8	2932
	Antares W.	35 31 38	2902	37 2 36	2952	38 33 51	2942	40 5 17	2930
	Fomalhaut E.	49 33 27	3301	48 9 17	3307	46 45 14	3315	45 21 20	3325
	α Pegasi E.	71 15 20	3351	69 52 8	3349	68 28 53	3346	67 5 35	3345
	SUN E.	95 24 36	3325	94 0 54	3313	92 36 58	3302	91 12 49	3289
9	SATURN W.	107 47 21	2840	109 20 57	2886	110 54 51	2812	112 29 3	2798
	Spica W.	93 39 50	2870	95 12 47	2856	96 46 2	2842	98 19 35	2828
	Antares W.	47 46 16	2867	49 19 17	2854	50 52 35	2839	52 26 12	2825
	Fomalhaut E.	38 25 18	3406	37 3 8	3432	35 41 28	3464	34 20 24	3502
	α Pegasi E.	60 8 45	3344	58 45 24	3346	57 22 6	3350	55 58 52	3355
	SUN E.	84 8 18	3292	82 42 35	3207	81 16 34	3192	79 50 15	3176

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	Spica W.	99° 53' 26"	9813	101° 27' 37"	9798	103° 2' 7"	9783	104° 36' 57"	9767
	Antares W.	54 0 8	2810	55 34 23	9795	57 8 58	9779	58 43 53	9764
	α Pegasi E.	54 35 44	3361	53 12 43	3369	51 49 51	3379	50 27 11	3392
	Sun E.	78 23 37	3160	76 56 40	3143	75 29 23	3197	74 1 46	3110
11	Spica W.	112 36 27	9684	114 13 28	9668	115 50 51	9650	117 28 38	9633
	Antares W.	66 43 47	9681	68 20 53	9663	69 58 23	9646	71 36 16	9627
	Sun E.	66 38 21	3080	65 8 33	3001	63 38 21	2981	62 7 45	2963
12	Antares W.	79 51 50	9537	81 32 12	9519	83 12 59	9500	84 54 12	9482
	α Aquilæ W.	43 21 57	4955	44 19 28	4789	45 19 13	4638	46 21 5	4486
	Sun E.	54 28 42	9665	52 55 38	9845	51 22 8	9825	49 48 13	9605
13	Antares W.	93 26 44	9391	95 10 32	9373	96 54 45	9355	98 39 24	9338
	α Aquilæ W.	51 58 53	3943	53 11 29	3855	54 25 35	3773	55 41 5	3697
	Sun E.	41 52 8	9707	40 15 37	9688	38 38 41	9669	37 1 20	9650
14	Antares W.	107 28 52	9255	109 15 58	9239	111 3 27	9224	112 51 19	9209
	α Aquilæ W.	62 17 18	3386	63 39 51	3335	65 3 22	3288	66 27 47	3244
	Sun E.	28 48 18	2561	27 8 29	2544	25 28 17	2527	23 47 42	2512
17	Sun W.	12 29 58	9291	14 15 27	9290	16 0 58	9290	17 46 29	9290
	Pollux E.	71 36 19	9039	69 43 34	9031	67 50 48	9030	65 58 1	9030
	Regulus E.	108 11 42	9042	106 19 14	9041	104 26 44	9041	102 34 13	9041
18	Sun W.	26 33 38	9232	28 18 51	9237	30 3 57	9243	31 48 55	9246
	Pollux E.	56 34 36	9043	54 42 9	9048	52 49 49	9053	50 57 37	9058
	Regulus E.	93 12 5	9052	91 19 52	9057	89 27 46	9062	87 35 48	9068
19	Sun W.	40 31 19	9287	42 15 12	9296	43 58 52	9407	45 42 17	9417
	Pollux E.	41 39 6	9096	39 48 1	9105	37 57 9	9115	36 6 32	9125
	Regulus E.	78 18 27	9105	76 27 35	9114	74 36 57	9123	72 46 33	9134
	SATURN E.	117 36 9	9073	115 44 29	9062	113 53 2	9091	112 1 49	9101
20	Sun W.	54 15 25	9477	55 57 11	9490	57 38 38	9503	59 19 47	9517
	Regulus E.	63 38 40	9191	61 49 59	9204	60 1 37	9216	58 13 34	9230
	SATURN E.	102 49 47	9157	101 0 14	9169	99 11 0	9181	97 22 4	9194
	Spica E.	117 40 44	9182	115 51 50	9194	114 3 14	9206	112 14 56	9219
21	Sun W.	67 40 39	9589	69 19 49	9604	70 58 39	9619	72 37 8	9634
	Aldebaran W.	32 33 59	9457	34 16 13	9455	35 58 29	9457	37 40 43	9460
	Mars W.	24 0 47	9519	25 41 44	9523	27 22 25	9535	29 2 49	9548
	Regulus E.	49 18 27	9302	47 32 30	9317	45 46 55	9329	44 1 42	9348
	SATURN E.	88 22 19	9261	86 35 22	9275	84 48 46	9289	83 2 31	9303
	Spica E.	103 18 17	9285	101 31 57	9300	99 45 58	9314	98 0 19	9326
22	Sun W.	80 44 25	9711	82 20 50	9726	83 56 55	9742	85 32 39	9757
	Aldebaran W.	46 10 15	9492	47 51 39	9509	49 32 49	9519	51 13 46	9522
	Mars W.	37 20 19	9616	38 58 52	9631	40 37 5	9645	42 14 59	9659
	Regulus E.	35 21 26	9430	33 38 34	9448	31 56 8	9467	30 14 8	9486
	SATURN E.	74 16 24	9375	72 32 13	9389	70 48 23	9403	69 4 53	9418
	Spica E.	89 17 12	9400	87 33 37	9414	85 50 22	9429	84 7 28	9443

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	Spica W.	106° 12' 8"	2751	107° 47' 40"	2735	109° 23' 34"	2719	110° 59' 49"	2701
	Antares W.	60 19 8	2747	61 54 45	2732	63 30 43	2714	65 7 4	2698
	α Pegasi E.	49 4 45	2407	47 42 36	2425	46 20 48	2446	44 59 24	2479
	SUN E.	72 33 49	2092	71 5 30	2074	69 26 49	2056	68 7 46	2039
11	Spica W.	119 6 48	2615	120 45 23	2597	122 24 22	2579	124 3 46	2561
	Antares W.	73 14 34	2610	74 53 16	2592	76 32 22	2574	78 11 53	2555
	SUN E.	60 36 46	2943	59 5 22	2924	57 33 34	2905	56 1 21	2884
12	Antares W.	86 35 51	2403	88 17 56	2445	90 0 26	2427	91 43 22	2409
	α Aquilæ W.	47 24 59	2369	48 30 48	2350	49 38 27	2140	50 47 50	2037
	SUN E.	48 13 52	2785	46 39 5	2766	45 3 52	2746	43 28 13	2726
13	Antares W.	100 24 28	2321	102 9 57	2304	103 55 51	2287	105 42 9	2270
	α Aquilæ W.	56 57 55	2626	58 16 1	2559	59 35 20	2497	60 55 47	2440
	SUN E.	35 23 33	2639	33 45 21	2613	32 6 44	2596	30 27 43	2578
14	Antares W.	114 39 33	2195	116 28 8	2181	118 17 4	2168	120 6 20	2155
	α Aquilæ W.	67 53 4	2904	69 19 9	2166	70 45 59	2130	72 13 32	2098
	SUN E.	22 6 45	2426	20 25 26	2422	18 43 47	2407	17 1 48	2453
17	SUN W.	19 32 0	2321	21 17 29	2322	23 2 56	2325	24 48 19	2328
	Pollux E.	64 5 14	2032	62 12 29	2033	60 19 47	2036	58 27 9	2039
	Regulus E.	100 41 43	2042	98 49 14	2043	96 56 47	2046	95 4 24	2048
18	SUN W.	33 33 45	2255	35 18 25	2262	37 2 55	2270	38 47 13	2278
	Pollux E.	49 5 33	2064	47 13 39	2072	45 21 56	2079	43 30 25	2087
	Regulus E.	85 43 59	2073	83 52 19	2081	82 0 50	2088	80 9 32	2096
19	SUN W.	47 25 27	2428	49 8 22	2440	50 51 0	2452	52 33 21	2464
	Pollux E.	34 16 11	2136	32 26 7	2147	30 36 19	2159	28 46 49	2170
	Regulus E.	70 56 25	2144	69 6 33	2155	67 16 58	2167	65 27 40	2178
	SATURN E.	110 10 52	2112	108 20 11	2122	106 29 46	2134	104 39 38	2145
20	SUN W.	61 0 37	2531	62 41 7	2545	64 21 18	2559	66 1 9	2574
	Regulus E.	56 25 51	2244	54 38 29	2258	52 51 27	2272	51 4 46	2287
	SATURN E.	95 33 28	2207	93 45 11	2220	91 57 14	2233	90 9 36	2247
	Spica E.	110 26 57	2222	108 39 17	2245	106 51 57	2259	105 4 57	2272
21	SUN W.	74 15 17	2649	75 53 5	2665	77 30 32	2680	79 7 39	2695
	Aldebaran W.	39 22 53	2684	41 4 57	2470	42 46 53	2477	44 28 39	2484
	MARS W.	30 42 56	2581	32 22 45	2574	34 2 15	2568	35 41 27	2562
	Regulus E.	42 16 52	2364	40 32 25	2380	38 48 22	2396	37 4 42	2413
	SATURN E.	81 16 36	2317	79 31 2	2331	77 45 48	2346	76 0 56	2360
	Spica E.	96 15 0	2342	94 30 2	2357	92 45 25	2371	91 1 8	2385
22	SUN W.	87 8 3	2773	88 43 6	2788	90 17 50	2803	91 52 14	2818
	Aldebaran W.	52 54 28	2533	54 34 56	2543	56 15 9	2555	57 55 6	2566
	MARS W.	43 52 34	2673	45 29 50	2688	47 6 46	2702	48 43 23	2716
	Regulus E.	28 32 35	2506	26 51 30	2527	25 10 54	2548	23 30 48	2571
	SATURN E.	67 21 44	2432	65 38 55	2446	63 56 26	2460	62 14 17	2474
	Spica E.	82 24 54	2458	80 42 41	2471	79 0 47	2485	77 19 13	2499

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	SUN W.	93° 26' 18"	2833	95° 0' 3"	2848	96° 33' 28"	2862	98° 6' 35"	2877
	Aldebaran W.	59 34 48	2577	61 14 14	2589	62 53 24	2601	64 32 18	2613
	MARS W.	50 19 41	2731	51 55 40	2745	53 31 20	2759	55 6 42	2773
	SATURN E.	60 32 27	2488	58 50 57	2502	57 9 46	2516	55 28 55	2529
	Spica E.	75 37 59	2513	73 57 4	2527	72 16 29	2541	70 36 13	2555
24	SUN W.	105 47 33	2948	107 18 51	2961	108 49 53	2974	110 20 38	2988
	Aldebaran W.	72 42 50	2671	74 20 9	2683	75 57 12	2695	77 33 59	2706
	MARS W.	62 59 0	2841	64 32 35	2853	66 5 54	2866	67 38 56	2879
	Pollux W.	28 31 27	2931	30 9 54	2939	31 48 5	2945	33 25 59	2956
	SATURN E.	47 9 14	2594	45 30 11	2607	43 51 26	2619	42 12 57	2632
	Spica E.	62 19 31	2631	60 41 4	2634	59 2 55	2646	57 25 3	2658
	Antares E.	108 11 55	2616	106 33 22	2629	104 55 6	2640	103 17 6	2653
25	SUN W.	117 50 20	3051	119 19 30	3062	120 48 26	3074	122 17 7	3085
	Aldebaran W.	85 34 9	2762	87 9 27	2772	88 44 31	2784	90 19 20	2794
	MARS W.	75 20 7	2940	76 51 35	2951	78 22 49	2962	79 53 49	2973
	Pollux W.	41 31 39	2713	43 8 2	2724	44 44 10	2735	46 20 4	2744
	SATURN E.	34 4 37	2690	32 27 44	2701	30 51 5	2711	29 14 40	2722
	Spica E.	49 19 47	2716	47 43 31	2729	46 7 30	2741	44 31 44	2752
	Antares E.	95 11 9	2710	93 34 43	2722	91 58 32	2732	90 22 35	2744
26	SUN W.	129 37 10	3139	131 4 32	3150	132 31 41	3160	133 58 38	3168
	Aldebaran W.	98 10 4	2845	99 43 33	2855	101 16 50	2865	102 49 54	2875
	MARS W.	87 25 25	3036	88 55 6	3036	90 24 34	3046	91 53 50	3056
	Pollux W.	54 16 15	2794	55 50 51	2804	57 25 14	2812	58 59 26	2821
	Spica E.	36 36 31	2805	35 2 10	2816	33 28 3	2826	31 54 9	2837
	Antares E.	82 26 17	2793	80 51 40	2802	79 17 15	2812	77 43 3	2821
27	Aldebaran W.	110 32 9	2992	112 4 0	2931	113 35 40	2940	115 7 8	2949
	MARS W.	99 17 19	3100	100 45 29	3109	102 13 28	3117	103 41 17	3125
	Pollux W.	66 47 34	2863	68 20 40	2872	69 53 35	2880	71 26 20	2887
	Regulus W.	30 23 48	2904	31 56 2	2909	33 28 9	2914	35 0 10	2919
	Antares E.	69 54 50	2863	68 21 44	2871	66 48 48	2879	65 16 2	2887
28	MARS W.	110 57 59	3163	112 24 52	3170	113 51 37	3178	115 18 13	3184
	Pollux W.	79 7 47	2922	80 39 38	2929	82 11 20	2935	83 42 54	2942
	Regulus W.	42 38 40	2945	44 10 2	2950	45 41 17	2955	47 12 26	2961
	Antares E.	57 34 34	2922	56 2 43	2929	54 31 1	2935	52 59 27	2942
	α Aquilæ E.	105 54 26	3044	104 40 9	3038	103 25 46	3033	102 11 18	3026
29	Pollux W.	91 18 48	2972	92 49 36	2977	94 20 18	2982	95 50 53	2987
	Regulus W.	54 46 30	2986	56 17 0	2992	57 47 23	2997	59 17 40	3001
	SATURN W.	15 59 53	2953	17 31 5	2958	19 2 10	2963	20 33 9	2968
	Antares E.	45 23 35	2972	43 52 47	2977	42 22 6	2983	40 51 32	2989
	α Aquilæ E.	95 58 14	3022	94 43 36	3025	93 29 0	3028	92 14 27	3031
30	Pollux W.	103 22 14	3012	104 52 12	3016	106 22 5	3020	107 51 53	3025
	Regulus W.	66 47 41	3023	68 17 25	3028	69 47 3	3032	71 16 36	3035
	SATURN W.	28 6 35	2991	29 36 59	2995	31 7 18	2999	32 37 32	3004
	Antares E.	33 20 20	3014	31 50 24	3018	30 20 34	3022	28 50 49	3027
	α Aquilæ E.	86 2 50	3061	84 48 51	3069	83 35 0	3072	82 21 19	3079

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	SUN W.	99 39 23	2891	101 11 53	2906	102 44 4	2990	104 15 57	2934
	Aldebaran W.	66 10 57	2834	67 49 19	2836	69 27 25	2848	71 5 15	2859
	MARS W.	56 41 45	2787	58 16 30	2800	59 50 58	2814	61 25 8	2826
	SATURN E.	53 48 22	2543	52 8 8	2556	50 28 12	2569	48 48 34	2582
	Spica E.	68 56 16	2568	67 16 37	2588	65 37 17	2595	63 58 15	2608
24	SUN W.	111 51 6	3001	113 21 18	3014	114 51 14	3096	116 20 55	3039
	Aldebaran W.	79 10 31	2717	80 46 48	2729	82 22 50	2740	83 58 37	2751
	MARS W.	69 11 42	2892	70 44 11	2904	72 16 25	2916	73 48 24	2928
	Pollux W.	35 3 38	2688	36 41 1	2679	38 18 9	2690	39 55 2	2702
	SATURN E.	40 34 45	2844	38 56 50	2855	37 19 10	2867	35 41 46	2878
	Spica E.	55 47 27	2671	54 10 8	2683	52 33 5	2695	50 56 18	2707
	Antares E.	101 39 23	2665	100 1 56	2677	98 24 45	2688	96 47 49	2700
25	SUN W.	123 45 35	3096	125 13 49	3108	126 41 49	3119	128 9 36	3129
	Aldebaran W.	91 53 56	2805	93 28 18	2815	95 2 27	2825	96 36 22	2835
	MARS W.	81 24 35	2985	82 55 7	2995	84 25 26	3005	85 55 32	3016
	Pollux W.	47 55 45	2755	49 31 12	2765	51 6 26	2775	52 41 27	2785
	SATURN E.	27 38 30	2733	26 2 34	2743	24 26 51	2753	22 51 22	2764
	Spica E.	42 56 13	2763	41 20 56	2774	39 45 54	2785	38 11 6	2795
	Antares E.	88 46 53	2753	87 11 24	2764	85 36 9	2774	84 1 7	2783
26	SUN W.	135 25 24	3179	136 51 58	3188	138 18 21	3198	139 44 32	3207
	Aldebaran W.	104 22 45	2884	105 55 24	2894	107 27 51	2903	109 0 6	2912
	MARS W.	93 22 54	3065	94 51 47	3074	96 20 28	3082	97 48 59	3091
	Pollux W.	60 33 26	2830	62 7 15	2839	63 40 52	2848	65 14 18	2855
	Spica E.	30 20 29	2848	28 47 3	2859	27 13 51	2869	25 40 52	2880
	Antares E.	76 9 2	2829	74 35 12	2838	73 1 34	2847	71 28 7	2855
27	Aldebaran W.	116 38 25	2958	118 9 30	2967	119 40 24	2977	121 11 6	2986
	MARS W.	105 8 56	3133	106 36 26	3141	108 3 46	3148	109 30 57	3156
	Pollux W.	72 58 56	2894	74 31 23	2901	76 3 40	2909	77 35 48	2916
	Regulus W.	36 32 5	2924	38 3 54	2929	39 35 36	2935	41 7 11	2939
	Antares E.	63 43 26	2894	62 10 59	2901	60 38 42	2909	59 6 34	2915
28	MARS W.	116 44 41	3191	118 11 1	3198	119 37 13	3204	121 3 17	3210
	Pollux W.	85 14 20	2848	86 45 38	2854	88 16 49	2860	89 47 52	2865
	Regulus W.	48 43 28	2966	50 14 23	2971	51 45 12	2977	53 15 54	2981
	Antares E.	51 28 1	2948	49 56 43	2954	48 25 33	2954	46 54 30	2966
	α Aquilæ E.	100 56 45	3095	99 42 9	3094	98 27 32	3092	97 12 53	3092
29	Pollux W.	97 21 22	2993	98 51 44	2997	100 22 0	3009	101 52 10	3007
	Regulus W.	60 47 52	3005	62 17 58	3010	63 47 58	3015	65 17 52	3019
	SATURN W.	22 4 2	2973	23 34 49	2977	25 5 30	2982	26 36 5	2986
	Antares E.	39 21 5	2993	37 50 44	2999	36 20 30	3004	34 50 22	3009
	α Aquilæ E.	90 59 57	3035	89 45 31	3041	88 31 11	3047	87 16 57	3054
30	Pollux W.	109 21 35	3029	110 51 12	3033	112 20 44	3036	113 50 12	3040
	Regulus W.	72 46 5	3039	74 15 29	3043	75 44 48	3047	77 14 3	3050
	SATURN W.	34 7 40	3008	35 37 43	3011	37 7 42	3015	38 37 36	3018
	Antares E.	27 21 10	3032	25 51 37	3036	24 22 9	3041	22 52 47	3045
	α Aquilæ E.	81 7 48	3001	79 54 29	3013	78 41 22	3015	77 28 28	3019

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Mon.	1	^h 2 ^m 35 ^s 28.53	9.549	N. 15° 13' 52".6	+45.04	15' 54".20	66.11	^m 3 ^s 3.91	0.306
Tues.	2	2 39 17.99	9.572	15 31 46.0	44.41	15 53.96	66.19	3 11.00	0.284
Wed.	3	2 43 8.00	9.596	15 49 24.2	43.76	15 53.73	66.27	3 17.52	0.260
Thur.	4	2 46 58.58	9.619	16 6 46.7	+43.11	15 53.50	66.35	3 23.49	0.237
Frid.	5	2 50 49.72	9.643	16 23 53.3	42.44	15 53.27	66.43	3 28.89	0.213
Sat.	6	2 54 41.45	9.667	16 40 43.7	41.76	15 53.04	66.51	3 33.70	0.188
SUN.	7	2 58 33.76	9.692	16 57 17.7	+41.06	15 52.81	66.59	3 37.93	0.164
Mon.	8	3 2 26.66	9.717	17 13 34.8	40.36	15 52.58	66.67	3 41.57	0.139
Tues.	9	3 6 20.16	9.742	17 29 34.8	39.64	15 52.36	66.75	3 44.62	0.115
Wed.	10	3 10 14.25	9.766	17 45 17.4	+38.90	15 52.14	66.83	3 47.06	0.090
Thur.	11	3 14 8.93	9.791	18 0 42.2	38.16	15 51.93	66.91	3 48.96	0.066
Frid.	12	3 18 4.21	9.815	18 15 49.1	37.40	15 51.72	67.00	3 50.23	0.041
Sat.	13	3 22 0.07	9.840	18 30 37.6	+36.63	15 51.51	67.08	3 50.93	0.017
SUN.	14	3 25 56.52	9.864	18 45 7.4	35.85	15 51.30	67.16	3 51.03	0.008
Mon.	15	3 29 53.55	9.888	18 59 18.3	35.05	15 51.11	67.24	3 50.56	0.031
Tues.	16	3 33 51.15	9.912	19 13 10.0	+34.25	15 50.91	67.32	3 49.52	0.055
Wed.	17	3 37 49.31	9.935	19 26 42.1	33.42	15 50.72	67.40	3 47.92	0.078
Thur.	18	3 41 48.03	9.958	19 39 54.4	32.59	15 50.54	67.48	3 45.77	0.101
Frid.	19	3 45 47.28	9.980	19 52 46.5	+31.75	15 50.36	67.56	3 43.06	0.123
Sat.	20	3 49 47.08	10.002	20 5 18.3	30.90	15 50.18	67.63	3 39.85	0.145
SUN.	21	3 53 47.40	10.024	20 17 29.5	30.03	15 50.01	67.71	3 36.10	0.167
Mon.	22	3 57 48.24	10.045	20 29 19.7	+29.15	15 49.84	67.78	3 31.82	0.189
Tues.	23	4 1 49.58	10.066	20 40 48.9	28.27	15 49.68	67.86	3 27.05	0.209
Wed.	24	4 5 51.42	10.087	20 51 56.7	27.38	15 49.52	67.93	3 21.78	0.230
Thur.	25	4 9 53.75	10.107	21 2 42.9	+26.47	15 49.36	68.00	3 16.03	0.250
Frid.	26	4 13 56.56	10.127	21 13 7.4	25.56	15 49.20	68.07	3 9.80	0.269
Sat.	27	4 17 59.82	10.146	21 23 9.8	24.64	15 49.05	68.13	3 3.11	0.289
SUN.	28	4 22 3.56	10.165	21 32 50.1	+23.71	15 48.90	68.20	2 55.95	0.307
Mon.	29	4 26 7.73	10.183	21 42 8.1	22.78	15 48.76	68.26	2 48.36	0.325
Tues.	30	4 30 12.34	10.201	21 51 3.4	21.83	15 48.61	68.32	2 40.33	0.344
Wed.	31	4 34 17.38	10.219	21 59 36.1	20.89	15 48.47	68.38	2 31.87	0.361
Thur.	32	4 38 22.83	10.236	N. 22° 7' 45.9	+19.93	15 48.33	68.44	2 23.00	0.378

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sidereal time.

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Mon.	1	2 35 29.02	9.550	N. 15° 13' 54.9"	+45.04	3 3.93	0.306	2 38 32.95
Tues.	2	2 39 18.50	9.573	15 31 48.4	44.41	3 11.01	0.283	2 42 29.51
Wed.	3	2 43 8.53	9.596	15 49 26.6	43.77	3 17.53	0.260	2 46 26.06
Thur.	4	2 46 59.12	9.620	16 6 49.2	+43.11	3 23.50	0.237	2 50 22.62
Frid.	5	2 50 50.28	9.644	16 23 55.8	42.44	3 28.90	0.213	2 54 19.18
Sat.	6	2 54 42.02	9.668	16 40 46.2	41.76	3 33.71	0.188	2 58 15.73
SUN.	7	2 58 34.35	9.692	16 57 20.2	+41.06	3 37.94	0.164	3 2 12.29
Mon.	8	3 2 27.26	9.717	17 13 37.3	40.36	3 41.58	0.139	3 6 8.84
Tues.	9	3 6 20.77	9.742	17 29 37.3	39.64	3 44.63	0.115	3 10 5.40
Wed.	10	3 10 14.87	9.766	17 45 19.9	+38.90	3 47.09	0.090	3 14 1.96
Thur.	11	3 14 9.55	9.791	18 0 44.7	38.16	3 48.96	0.065	3 17 58.51
Frid.	12	3 18 4.84	9.816	18 15 51.5	37.40	3 50.23	0.041	3 21 55.07
Sat.	13	3 22 0.70	9.840	18 30 39.9	+36.63	3 50.93	0.017	3 25 51.63
SUN.	14	3 25 57.15	9.864	18 45 9.8	35.85	3 51.03	0.008	3 29 48.18
Mon.	15	3 29 54.18	9.888	18 59 20.6	35.05	3 50.56	0.031	3 33 44.74
Tues.	16	3 33 51.78	9.912	19 13 12.2	+34.24	3 49.52	0.055	3 37 41.30
Wed.	17	3 37 49.94	9.935	19 26 44.2	33.44	3 47.92	0.078	3 41 37.86
Thur.	18	3 41 48.65	9.958	19 39 56.4	32.59	3 45.76	0.101	3 45 34.41
Frid.	19	3 45 47.90	9.980	19 52 48.5	+31.75	3 43.07	0.123	3 49 30.97
Sat.	20	3 49 47.69	10.002	20 5 20.2	30.89	3 39.84	0.145	3 53 27.53
SUN.	21	3 53 48.00	10.024	20 17 31.3	30.03	3 36.09	0.167	3 57 24.09
Mon.	22	3 57 48.83	10.045	20 29 21.5	+29.15	3 31.81	0.189	4 1 20.64
Tues.	23	4 1 50.16	10.066	20 40 50.6	28.26	3 27.04	0.209	4 5 17.20
Wed.	24	4 5 51.99	10.086	20 51 58.3	27.37	3 21.77	0.230	4 9 13.76
Thur.	25	4 9 54.30	10.106	21 2 44.4	+26.47	3 16.02	0.260	4 13 10.32
Frid.	26	4 13 57.09	10.126	21 13 8.8	25.56	3 9.78	0.289	4 17 6.87
Sat.	27	4 18 0.34	10.145	21 23 11.1	24.64	3 3.09	0.289	4 21 3.43
SUN.	28	4 22 4.06	10.164	21 32 51.3	+23.71	2 55.93	0.307	4 24 59.99
Mon.	29	4 26 8.21	10.182	21 42 9.2	22.77	2 48.34	0.325	4 28 56.55
Tues.	30	4 30 12.80	10.200	21 51 4.4	21.83	2 40.31	0.344	4 32 53.11
Wed.	31	4 34 17.81	10.218	21 59 37.0	20.88	2 31.85	0.361	4 36 49.66
Thur.	32	4 38 23.24	10.235	N. 22° 7' 46.7"	+19.92	2 22.98	0.378	4 40 46.22

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing.

Diff. for 1 Hour,
+9°.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	121	41° 18' 36.8	18° 29.3	145.38	— 0.17	0.0035355	+44.8	21 ^h 17 ^m 57.11 ^s
2	122	42 16 45.0	16 37.4	145.31	0.29	0.0036428	44.6	21 14 1.20
3	123	43 14 51.6	14 43.8	145.24	0.39	0.0037496	44.4	21 10 5.30
4	124	44 12 56.6	12 48.7	145.18	— 0.47	0.0038558	+44.1	21 6 9.38
5	125	45 11 0.1	10 52.0	145.12	0.53	0.0039613	43.8	21 2 13.47
6	126	46 9 2.3	8 54.1	145.06	0.57	0.0040659	43.4	20 58 17.56
7	127	47 7 3.0	6 54.6	145.00	— 0.57	0.0041696	+43.0	20 54 21.65
8	128	48 5 2.4	4 53.9	144.95	0.53	0.0042722	42.5	20 50 25.75
9	129	49 3 0.5	2 51.8	144.89	0.47	0.0043735	41.9	20 46 29.83
10	130	50 0 57.3	0 48.5	144.84	— 0.39	0.0044733	+41.2	20 42 33.92
11	131	50 58 52.9	58 43.9	144.79	0.28	0.0045715	40.6	20 38 38.01
12	132	51 56 47.2	56 38.0	144.73	0.15	0.0046680	39.8	20 34 42.10
13	133	52 54 40.1	54 30.8	144.68	— 0.01	0.0047627	+39.1	20 30 46.19
14	134	53 52 31.7	52 22.2	144.62	+ 0.13	0.0048555	38.2	20 26 50.28
15	135	54 50 22.0	50 12.4	144.56	0.26	0.0049462	37.4	20 22 54.37
16	136	55 48 10.8	48 1.0	144.50	+ 0.37	0.0050348	+36.5	20 18 58.45
17	137	56 45 58.1	45 48.1	144.44	0.46	0.0051213	35.6	20 15 2.54
18	138	57 43 43.9	43 33.7	144.38	0.53	0.0052057	34.8	20 11 6.63
19	139	58 41 28.2	41 17.9	144.31	+ 0.58	0.0052882	+34.0	20 7 10.72
20	140	59 39 11.0	39 0.5	144.25	0.60	0.0053688	33.2	20 3 14.81
21	141	60 36 52.3	36 41.6	144.19	0.59	0.0054475	32.4	19 59 18.89
22	142	61 34 32.0	34 21.2	144.12	+ 0.55	0.0055243	+31.6	19 55 22.99
23	143	62 32 10.2	31 59.2	144.06	0.48	0.0055993	30.9	19 51 27.06
24	144	63 29 46.9	29 35.7	144.00	0.38	0.0056727	30.3	19 47 31.16
25	145	64 27 22.1	27 10.7	143.94	+ 0.26	0.0057447	+29.7	19 43 35.25
26	146	65 24 55.9	24 44.3	143.88	+ 0.13	0.0058154	29.2	19 39 39.34
27	147	66 22 28.4	22 16.7	143.83	0.00	0.0058848	28.6	19 35 43.43
28	148	67 19 59.6	19 47.7	143.77	— 0.12	0.0059529	+ 28.1	19 31 47.51
29	149	68 17 29.5	17 17.4	143.72	0.24	0.0060198	27.6	19 27 51.60
30	150	69 14 58.3	14 46.0	143.68	0.35	0.0060856	27.2	19 23 55.69
31	151	70 12 26.0	12 13.6	143.64	0.44	0.0061503	26.8	19 19 59.78
32	152	71 9 52.8	9 40.2	143.60	— 0.50	0.0062138	+ 26.2	19 16 3.87
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 th .								Diff. for 1 Hour, — 9 ^m .8296. (Table II.)

GREENWICH MEAN TIME

THE MOON'S

Day of the Month.	SEMIDIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	14 47.0	14 45.8	54 8.4	-0.40	54 4.2	-0.30	12 40.7	1.89	14.9
2	14 45.1	14 44.7	54 1.4	-0.18	54 0.0	-0.06	13 27.3	1.99	15.9
3	14 44.7	14 45.1	54 0.0	+0.07	54 1.7	+0.21	14 16.4	2.09	16.9
4	14 46.1	14 47.5	54 5.1	+0.36	54 10.4	+0.52	15 7.4	2.15	17.9
5	14 49.4	14 51.9	54 17.5	0.68	54 26.7	0.86	15 59.3	2.17	18.9
6	14 55.0	14 58.7	54 38.0	1.03	54 51.4	1.21	16 51.0	2.13	19.9
7	15 2.9	15 7.8	55 7.1	+1.40	55 24.9	+1.58	17 41.5	2.07	20.9
8	15 13.2	15 19.2	55 44.9	1.76	56 7.0	1.92	18 30.3	2.00	21.9
9	15 25.8	15 32.8	56 31.0	2.07	56 56.6	2.20	19 17.7	1.95	22.9
10	15 40.1	15 47.8	57 23.7	+2.30	57 51.8	+2.36	20 4.3	1.94	23.9
11	15 55.6	16 3.4	58 20.4	2.39	58 49.0	2.37	20 51.2	1.98	24.9
12	16 11.0	16 18.3	59 17.1	2.29	59 43.8	2.15	21 39.6	2.07	25.9
13	16 25.0	16 31.0	60 8.6	+1.96	60 30.7	+1.70	22 31.1	2.22	26.9
14	16 36.1	16 40.1	60 49.3	1.39	61 4.1	1.05	23 26.8	2.42	27.9
15	16 42.9	16 44.4	61 14.3	+0.65	61 19.7	+0.24	δ		28.9
16	16 44.5	16 43.2	61 20.0	-0.18	61 15.5	-0.58	0 27.5	2.62	0.6
17	16 40.7	16 37.0	61 6.1	0.96	60 52.4	1.30	1 32.4	2.76	1.6
18	16 32.2	16 26.5	60 34.9	1.61	60 13.9	1.86	2 38.9	2.75	2.6
19	16 20.1	16 13.2	59 50.4	-2.04	59 25.0	-2.17	3 43.4	2.60	3.6
20	16 5.9	15 58.5	58 58.4	2.25	58 31.1	2.28	4 43.3	2.38	4.6
21	15 51.0	15 43.8	58 3.8	2.25	57 37.1	2.20	5 37.4	2.14	5.6
22	15 36.7	15 30.0	57 11.1	-2.11	56 46.4	-2.00	6 26.2	1.94	6.6
23	15 23.6	15 17.7	56 23.1	1.88	56 1.4	1.74	7 10.8	1.79	7.6
24	15 12.3	15 7.4	55 41.5	1.59	55 23.4	1.43	7 52.8	1.71	8.6
25	15 3.0	14 59.0	55 7.2	-1.28	54 52.8	-1.12	8 33.4	1.68	9.6
26	14 55.6	14 52.7	54 40.3	0.97	54 29.5	0.83	9 13.8	1.70	10.6
27	14 50.2	14 48.2	54 20.4	0.69	54 13.0	0.56	9 55.3	1.76	11.6
28	14 46.6	14 45.4	54 7.0	-0.44	54 2.6	-0.31	10 38.5	1.85	12.6
29	14 44.6	14 44.1	53 59.6	-0.20	53 57.9	-0.09	11 24.2	1.96	13.6
30	14 44.0	14 44.3	53 57.6	+0.02	53 58.9	+0.13	12 12.6	2.06	14.6
31	14 44.9	14 45.8	54 1.1	0.25	54 4.8	0.37	13 3.1	2.14	15.6
32	14 47.4	14 49.2	54 10.0	+0.49	54 16.5	+0.61	13 54.9	2.17	16.6

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 1.					WEDNESDAY 3.				
0	14 ^h 56 ^m 19.87	1.9474	S. 18° 31' 35.9"	10.981	0	16 ^h 34 ^m 19.02	2.1357	S. 25° 33' 40.8"	6.323
1	14 58 16.82	1.9511	18 42 32.4	10.963	1	16 36 27.27	2.1393	25 39 54.9	6.176
2	15 0 14.00	1.9548	18 53 24.3	10.695	2	16 38 35.74	2.1430	25 46 1.9	6.059
3	15 2 11.40	1.9586	19 4 11.4	10.744	3	16 40 44.43	2.1466	25 52 1.9	5.941
4	15 4 9.03	1.9623	19 14 53.6	10.663	4	16 42 53.33	2.1501	25 57 54.8	5.822
5	15 6 6.88	1.9661	19 25 31.0	10.582	5	16 45 2.44	2.1537	26 3 40.5	5.702
6	15 8 4.96	1.9699	19 36 3.5	10.500	6	16 47 11.77	2.1572	26 9 19.0	5.582
7	15 10 3.27	1.9737	19 46 31.0	10.417	7	16 49 21.31	2.1607	26 14 50.3	5.461
8	15 12 1.81	1.9775	19 56 53.5	10.332	8	16 51 31.05	2.1640	26 20 14.3	5.339
9	15 14 0.57	1.9814	20 7 10.9	10.247	9	16 53 40.99	2.1673	26 25 31.0	5.217
10	15 15 59.57	1.9853	20 17 23.2	10.162	10	16 55 51.13	2.1706	26 30 40.3	5.094
11	15 17 58.81	1.9892	20 27 30.3	10.075	11	16 58 1.47	2.1739	26 35 42.3	4.971
12	15 19 58.28	1.9930	20 37 32.2	9.987	12	17 0 12.00	2.1771	26 40 36.9	4.847
13	15 21 57.99	1.9979	20 47 28.8	9.899	13	17 2 22.72	2.1803	26 45 24.0	4.722
14	15 23 57.94	2.0011	20 57 20.1	9.810	14	17 4 33.63	2.1834	26 50 3.6	4.597
15	15 25 58.12	2.0050	21 7 6.0	9.720	15	17 6 44.73	2.1865	26 54 35.7	4.472
16	15 27 58.54	2.0090	21 16 46.5	9.630	16	17 8 56.01	2.1895	26 59 0.2	4.345
17	15 29 59.20	2.0130	21 26 21.5	9.537	17	17 11 7.47	2.1925	27 3 17.1	4.218
18	15 32 0.10	2.0170	21 35 51.0	9.445	18	17 13 19.11	2.1954	27 7 26.4	4.091
19	15 34 1.24	2.0210	21 45 14.9	9.352	19	17 15 30.92	2.1982	27 11 28.0	3.963
20	15 36 2.62	2.0251	21 54 33.1	9.257	20	17 17 42.90	2.2010	27 15 21.9	3.834
21	15 38 4.25	2.0292	22 3 45.7	9.162	21	17 19 55.04	2.2037	27 19 8.1	3.706
22	15 40 6.12	2.0332	22 12 52.6	9.067	22	17 22 7.35	2.2064	27 22 46.6	3.576
23	15 42 8.23	2.0372	S. 22° 21' 53.7"	8.969	23	17 24 19.81	2.2090	S. 27° 26' 17.2"	3.445
TUESDAY 2.					THURSDAY 4.				
0	15 44 10.59	2.0413	S. 22° 30' 48.9"	8.871	0	17 26 32.43	2.2116	S. 27° 29' 40.0"	3.315
1	15 46 13.19	2.0453	22 39 38.2	8.773	1	17 28 45.20	2.2141	27 32 55.0	3.184
2	15 48 16.03	2.0493	22 48 21.7	8.675	2	17 30 58.12	2.2165	27 36 2.1	3.053
3	15 50 19.11	2.0533	22 56 59.2	8.574	3	17 33 11.18	2.2189	27 39 1.3	2.921
4	15 52 22.43	2.0574	23 5 30.6	8.473	4	17 35 24.38	2.2212	27 41 52.6	2.786
5	15 54 26.00	2.0615	23 13 55.9	8.372	5	17 37 37.72	2.2234	27 44 35.9	2.656
6	15 56 29.81	2.0655	23 22 15.2	8.270	6	17 39 51.19	2.2256	27 47 11.3	2.523
7	15 58 33.86	2.0695	23 30 28.3	8.166	7	17 42 4.79	2.2277	27 49 38.7	2.389
8	16 0 38.15	2.0736	23 38 35.1	8.062	8	17 44 18.51	2.2297	27 51 58.0	2.255
9	16 2 42.69	2.0776	23 46 35.7	7.957	9	17 46 32.35	2.2317	27 54 9.3	2.121
10	16 4 47.47	2.0816	23 54 29.9	7.851	10	17 48 46.31	2.2335	27 56 12.5	1.986
11	16 6 52.48	2.0855	24 2 17.8	7.745	11	17 51 0.37	2.2353	27 58 7.6	1.851
12	16 8 57.73	2.0895	24 9 59.3	7.638	12	17 53 14.54	2.2371	27 59 54.6	1.716
13	16 11 3.22	2.0935	24 17 34.4	7.530	13	17 55 28.82	2.2387	28 1 33.5	1.580
14	16 13 8.95	2.0975	24 25 2.9	7.421	14	17 57 43.19	2.2403	28 3 4.2	1.444
15	16 15 14.92	2.1014	24 32 24.9	7.312	15	17 59 57.66	2.2418	28 4 26.8	1.308
16	16 17 21.12	2.1053	24 39 40.3	7.201	16	18 2 12.21	2.2433	28 5 41.2	1.172
17	16 19 27.55	2.1092	24 46 49.0	7.090	17	18 4 26.85	2.2447	28 6 47.4	1.035
18	16 21 34.22	2.1131	24 53 51.1	6.979	18	18 6 41.57	2.2460	28 7 45.4	0.896
19	16 23 41.12	2.1169	25 0 46.5	6.867	19	18 8 56.37	2.2472	28 8 35.1	0.760
20	16 25 48.25	2.1207	25 7 35.1	6.753	20	18 11 11.23	2.2483	28 9 16.6	0.623
21	16 27 55.60	2.1244	25 14 16.8	6.638	21	18 13 26.16	2.2493	28 9 49.9	0.486
22	16 30 3.18	2.1282	25 20 51.7	6.524	22	18 15 41.15	2.2503	28 10 14.9	0.348
23	16 32 10.99	2.1320	25 27 19.7	6.409	23	18 17 56.20	2.2512	28 10 31.6	0.210
24	16 34 19.02	2.1357	S. 25° 33' 40.8"	6.293	24	18 20 11.30	2.2521	S. 28° 10' 40.1"	- 0.072

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 5.					SUNDAY 7.				
0	18 20 11.30	2.2591	S. 28° 10' 40.1"	- 0.072	0	20 7 51.75	2.2006	S. 25° 35' 16.5"	6.477
1	18 22 26.45	2.2598	28 10 40.3	+ 0.067	1	20 10 4.26	2.2073	25 28 44.0	6.606
2	18 24 41.64	2.2635	28 10 32.1	0.206	2	20 12 16.63	2.2060	25 22 3.8	6.734
3	18 26 56.87	2.2642	28 10 15.6	0.344	3	20 14 28.86	2.2097	25 15 15.9	6.863
4	18 29 12.14	2.2647	28 9 50.8	0.482	4	20 16 40.95	2.2003	25 8 20.3	6.991
5	18 31 27.43	2.2651	28 9 17.7	0.621	5	20 18 52.90	2.1980	25 1 17.0	7.119
6	18 33 42.75	2.2655	28 8 36.3	0.760	6	20 21 4.71	2.1968	24 54 6.0	7.247
7	18 35 58.09	2.2658	28 7 46.5	0.899	7	20 23 16.37	2.1931	24 46 47.4	7.373
8	18 38 13.44	2.2660	28 6 48.4	1.038	8	20 25 27.88	2.1907	24 39 21.3	7.498
9	18 40 28.81	2.2662	28 5 42.0	1.177	9	20 27 39.25	2.1882	24 31 47.7	7.623
10	18 42 44.19	2.2663	28 4 27.2	1.316	10	20 29 50.47	2.1857	24 24 6.6	7.748
11	18 44 59.57	2.2663	28 3 4.1	1.454	11	20 32 1.54	2.1830	24 16 18.0	7.873
12	18 47 14.94	2.2662	28 1 32.7	1.593	12	20 34 12.45	2.1807	24 8 21.9	7.998
13	18 49 30.31	2.2660	27 59 52.9	1.732	13	20 36 23.21	2.1781	24 0 18.4	8.119
14	18 51 45.66	2.2658	27 58 4.8	1.872	14	20 38 33.82	2.1755	23 52 7.6	8.248
15	18 54 1.00	2.2655	27 56 8.3	2.011	15	20 40 44.27	2.1729	23 43 49.4	8.364
16	18 56 16.32	2.2651	27 54 3.5	2.149	16	20 42 54.57	2.1703	23 35 23.9	8.486
17	18 58 31.61	2.2646	27 51 50.4	2.288	17	20 45 4.71	2.1677	23 26 51.1	8.607
18	19 0 46.87	2.2641	27 49 29.0	2.426	18	20 47 14.69	2.1650	23 18 11.1	8.727
19	19 3 2.10	2.2635	27 46 59.3	2.564	19	20 49 24.51	2.1624	23 9 23.9	8.847
20	19 5 17.29	2.2629	27 44 21.3	2.703	20	20 51 34.18	2.1598	23 0 29.5	8.966
21	19 7 32.44	2.2622	27 41 34.9	2.841	21	20 53 43.69	2.1572	22 51 28.0	9.084
22	19 9 47.55	2.2613	27 38 40.3	2.979	22	20 55 53.04	2.1546	22 42 19.4	9.209
23	19 12 2.60	2.2604	S. 27° 35' 37.4"	3.117	23	20 58 2.23	2.1517	S. 22° 33' 3.8"	9.319
SATURDAY 6.					MONDAY 8.				
0	19 14 17.60	2.2495	S. 27° 32' 26.2"	3.255	0	21 0 11.25	2.1490	S. 22° 23' 41.1"	9.436
1	19 16 32.54	2.2485	27 29 6.8	3.393	1	21 2 20.11	2.1464	22 14 11.4	9.559
2	19 18 47.42	2.2474	27 25 39.1	3.530	2	21 4 28.82	2.1439	22 4 34.8	9.687
3	19 21 2.23	2.2463	27 22 3.2	3.668	3	21 6 37.38	2.1413	21 54 51.4	9.781
4	19 23 16.97	2.2451	27 18 19.0	3.805	4	21 8 45.78	2.1387	21 45 1.1	9.895
5	19 25 31.64	2.2438	27 14 26.6	3.941	5	21 10 54.02	2.1360	21 35 4.0	10.008
6	19 27 46.23	2.2425	27 10 26.1	4.077	6	21 13 2.10	2.1334	21 25 0.1	10.121
7	19 30 0.74	2.2411	27 6 17.4	4.213	7	21 15 10.03	2.1308	21 14 49.5	10.233
8	19 32 15.16	2.2396	27 2 0.5	4.349	8	21 17 17.80	2.1280	21 4 32.2	10.344
9	19 34 29.49	2.2381	26 57 35.5	4.485	9	21 19 25.41	2.1256	20 54 8.2	10.455
10	19 36 43.73	2.2366	26 53 2.3	4.621	10	21 21 32.87	2.1230	20 43 37.6	10.564
11	19 38 57.88	2.2350	26 48 21.0	4.755	11	21 23 40.17	2.1204	20 33 0.5	10.673
12	19 41 11.93	2.2333	26 43 31.7	4.889	12	21 25 47.32	2.1179	20 22 16.8	10.782
13	19 43 25.88	2.2316	26 38 34.3	5.024	13	21 27 54.32	2.1154	20 11 26.6	10.890
14	19 45 39.72	2.2298	26 33 28.8	5.158	14	21 30 1.17	2.1129	20 0 30.0	10.997
15	19 47 53.45	2.2279	26 28 15.3	5.292	15	21 32 7.87	2.1104	19 49 27.0	11.103
16	19 50 7.07	2.2261	26 22 53.8	5.425	16	21 34 14.42	2.1080	19 38 17.6	11.208
17	19 52 20.58	2.2242	26 17 24.3	5.557	17	21 36 20.83	2.1056	19 27 2.0	11.313
18	19 54 33.98	2.2223	26 11 46.9	5.689	18	21 38 27.09	2.1039	19 15 40.1	11.417
19	19 56 47.26	2.2203	26 6 1.6	5.822	19	21 40 33.21	2.1008	19 4 12.0	11.520
20	19 59 0.41	2.2182	26 0 8.3	5.954	20	21 42 39.19	2.0985	18 52 37.7	11.623
21	20 1 13.44	2.2161	25 54 7.1	6.085	21	21 44 45.03	2.0962	18 40 57.2	11.726
22	20 3 26.34	2.2139	25 47 58.1	6.216	22	21 46 50.73	2.0939	18 29 10.6	11.827
23	20 5 39.11	2.2118	25 41 41.2	6.347	23	21 48 56.30	2.0917	18 17 18.0	11.927
24	20 7 51.75	2.2096	S. 25° 35' 16.5"	6.477	24	21 51 1.73	2.0894	S. 18° 5' 19.4"	12.027

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 9.					THURSDAY 11.				
0	^h 21 ^m 51 ^s 1.73	2.0894	S. 18° 5' 19.4"	12.097	0	^h 23 ^m 29 ^s 41.47	2.0447	S. 6° 49' 18.0"	15.788
1	21 53 7.03	2.0879	17 53 14.8	12.136	1	23 31 44.17	2.0454	6 33 29.1	15.842
2	21 55 12.20	2.0859	17 41 4.4	12.223	2	23 33 46.92	2.0469	6 17 37.0	15.895
3	21 57 17.25	2.0831	17 28 48.1	12.390	3	23 35 49.72	2.0471	6 1 41.7	15.947
4	21 59 22.17	2.0810	17 16 26.0	12.417	4	23 37 52.57	2.0481	5 45 43.3	15.998
5	22 1 26.97	2.0789	17 3 58.1	12.513	5	23 39 55.49	2.0492	5 29 41.9	16.048
6	22 3 31.64	2.0769	16 51 24.5	12.608	6	23 41 58.47	2.0503	5 13 37.6	16.096
7	22 5 36.20	2.0750	16 38 45.2	12.702	7	23 44 1.52	2.0515	4 57 30.4	16.143
8	22 7 40.64	2.0731	16 26 0.3	12.795	8	23 46 4.65	2.0527	4 41 20.4	16.189
9	22 9 44.97	2.0713	16 13 9.8	12.887	9	23 48 7.85	2.0541	4 25 7.7	16.234
10	22 11 49.19	2.0695	16 0 13.8	12.978	10	23 50 11.14	2.0556	4 8 52.3	16.277
11	22 13 53.31	2.0677	15 47 12.4	13.069	11	23 52 14.52	2.0572	3 52 34.4	16.319
12	22 15 57.32	2.0660	15 34 5.5	13.160	12	23 54 18.00	2.0589	3 36 14.0	16.360
13	22 18 1.23	2.0643	15 20 53.2	13.249	13	23 56 21.58	2.0606	3 19 51.2	16.400
14	22 20 5.04	2.0627	15 7 35.6	13.337	14	23 58 25.27	2.0623	3 3 26.0	16.439
15	22 22 8.76	2.0612	14 54 12.8	13.424	15	0 0 29.06	2.0642	2 46 58.5	16.477
16	22 24 12.38	2.0597	14 40 44.8	13.510	16	0 2 32.97	2.0662	2 30 28.8	16.513
17	22 26 15.92	2.0582	14 27 11.6	13.596	17	0 4 37.00	2.0683	2 13 57.0	16.547
18	22 28 19.37	2.0568	14 13 33.2	13.682	18	0 6 41.16	2.0704	1 57 23.2	16.580
19	22 30 22.74	2.0555	13 59 49.8	13.768	19	0 8 45.45	2.0727	1 40 47.4	16.612
20	22 32 26.03	2.0542	13 46 1.4	13.854	20	0 10 49.88	2.0750	1 24 9.7	16.642
21	22 34 29.24	2.0529	13 32 8.0	13.931	21	0 12 54.45	2.0774	1 7 30.3	16.671
22	22 36 32.38	2.0517	13 18 9.7	14.012	22	0 14 59.17	2.0800	0 50 49.2	16.699
23	22 38 35.45	2.0507	S. 13° 4' 6.6"	14.092	23	0 17 4.05	2.0826	S. 0° 34' 6.4"	16.726
WEDNESDAY 10.					FRIDAY 12.				
0	22 40 38.46	2.0497	S. 12° 49' 58.7"	14.172	0	0 19 9.08	2.0853	S. 0° 17' 22.1"	16.751
1	22 42 41.41	2.0487	12 35 46.0	14.251	1	0 21 14.28	2.0881	S. 0 0 36.3	16.774
2	22 44 44.30	2.0477	12 21 28.6	14.328	2	0 23 19.65	2.0909	N. 0 16 10.8	16.796
3	22 46 47.13	2.0468	12 7 6.7	14.404	3	0 25 25.19	2.0938	0 32 59.1	16.815
4	22 48 49.92	2.0461	11 52 40.2	14.480	4	0 27 30.91	2.0969	0 49 48.6	16.835
5	22 50 52.66	2.0454	11 38 9.1	14.556	5	0 29 36.82	2.1001	1 6 39.3	16.853
6	22 52 55.36	2.0447	11 23 33.5	14.630	6	0 31 42.92	2.1033	1 23 31.0	16.869
7	22 54 58.02	2.0441	11 8 53.5	14.702	7	0 33 49.22	2.1067	1 40 23.6	16.883
8	22 57 0.65	2.0435	10 54 9.2	14.774	8	0 35 55.72	2.1101	1 57 17.0	16.896
9	22 59 3.24	2.0430	10 39 20.6	14.845	9	0 38 2.43	2.1136	2 14 11.1	16.907
10	23 1 5.81	2.0426	10 24 27.8	14.915	10	0 40 9.35	2.1172	2 31 5.8	16.916
11	23 3 8.36	2.0423	10 9 30.8	14.984	11	0 42 16.50	2.1210	2 48 1.0	16.924
12	23 5 10.89	2.0421	9 54 29.7	15.052	12	0 44 23.87	2.1248	3 4 56.7	16.931
13	23 7 13.41	2.0419	9 39 24.6	15.119	13	0 46 31.47	2.1287	3 21 52.7	16.935
14	23 9 15.92	2.0418	9 24 15.5	15.185	14	0 48 39.31	2.1326	3 38 48.9	16.938
15	23 11 18.43	2.0418	9 9 2.4	15.251	15	0 50 47.38	2.1366	3 55 45.3	16.940
16	23 13 20.94	2.0418	8 53 45.4	15.315	16	0 52 55.70	2.1406	4 12 41.7	16.940
17	23 15 23.45	2.0418	8 38 24.6	15.377	17	0 55 4.28	2.1451	4 20 38.1	16.938
18	23 17 25.96	2.0420	8 23 0.1	15.439	18	0 57 13.11	2.1494	4 46 34.3	16.934
19	23 19 28.49	2.0422	8 7 31.9	15.500	19	0 59 22.20	2.1538	5 3 30.2	16.928
20	23 21 31.03	2.0426	7 52 0.1	15.559	20	1 1 31.57	2.1584	5 20 25.7	16.922
21	23 23 33.59	2.0430	7 36 24.8	15.618	21	1 3 41.21	2.1630	5 37 20.8	16.913
22	23 25 36.18	2.0435	7 20 45.9	15.677	22	1 5 51.13	2.1677	5 54 15.3	16.902
23	23 27 38.81	2.0441	7 5 3.6	15.733	23	1 8 1.34	2.1725	6 11 9.0	16.888
24	23 29 41.47	2.0447	S. 6° 49' 18.0"	15.788	24	1 10 11.83	2.1773	N. 6° 28' 1.9"	16.874

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 13.					MONDAY 15.				
0	1 10 11.83	2.1773	N. 6° 28' 1.9"	16.874	0	3 1 52.06	2.4996	N. 19° 2' 23.2"	13.704
1	1 12 22.62	2.1893	6 44 53.9	16.858	1	3 4 22.27	2.5074	19 16 1.8	13.582
2	1 14 33.71	2.1874	7 1 44.9	16.840	2	3 6 52.95	2.5159	19 29 33.0	13.457
3	1 16 45.11	2.1926	7 18 34.7	16.819	3	3 9 24.10	2.5230	19 42 56.6	13.399
4	1 18 56.82	2.1978	7 35 23.2	16.797	4	3 11 55.71	2.5308	19 56 12.5	13.300
5	1 21 8.85	2.2039	7 52 10.3	16.773	5	3 14 27.79	2.5386	20 9 20.6	13.068
6	1 23 21.20	2.2087	8 8 56.0	16.747	6	3 17 0.34	2.5463	20 22 20.7	12.933
7	1 25 33.88	2.2142	8 25 40.0	16.719	7	3 19 33.35	2.5541	20 35 12.6	12.797
8	1 27 46.90	2.2197	8 42 22.3	16.690	8	3 22 6.83	2.5618	20 47 56.3	12.658
9	1 30 0.25	2.2254	8 59 2.8	16.658	9	3 24 40.77	2.5695	21 0 31.6	12.517
10	1 32 13.94	2.2312	9 15 41.3	16.624	10	3 27 15.17	2.5772	21 12 58.3	12.373
11	1 34 27.99	2.2371	9 32 17.7	16.588	11	3 29 50.03	2.5848	21 25 16.3	12.228
12	1 36 42.39	2.2430	9 48 51.9	16.551	12	3 32 25.35	2.5924	21 37 25.6	12.080
13	1 38 57.15	2.2490	10 5 23.8	16.511	13	3 35 1.12	2.5999	21 49 25.9	11.929
14	1 41 12.27	2.2551	10 21 53.2	16.468	14	3 37 37.34	2.6074	22 1 17.1	11.776
15	1 43 27.76	2.2613	10 38 20.0	16.424	15	3 40 14.01	2.6148	22 12 59.0	11.621
16	1 45 43.62	2.2675	10 54 44.1	16.377	16	3 42 51.12	2.6222	22 24 31.6	11.464
17	1 47 59.86	2.2739	11 11 5.3	16.329	17	3 45 28.67	2.6295	22 35 54.7	11.304
18	1 50 16.49	2.2803	11 27 23.6	16.279	18	3 48 6.66	2.6367	22 47 8.1	11.149
19	1 52 33.50	2.2867	11 43 38.8	16.227	19	3 50 45.08	2.6439	22 58 11.8	10.979
20	1 54 50.90	2.2933	11 59 50.8	16.172	20	3 53 23.93	2.6510	23 9 5.6	10.813
21	1 57 8.70	2.3000	12 15 59.4	16.114	21	3 56 3.20	2.6580	23 19 49.4	10.646
22	1 59 26.90	2.3067	12 32 4.5	16.055	22	3 58 42.89	2.6649	23 30 23.1	10.476
23	2 1 45.50	2.3134	N. 12° 48' 6.0"	15.993	23	4 1 22.99	2.6717	N. 23° 40' 46.5"	10.303
SUNDAY 14.					TUESDAY 16.				
0	2 4 4.51	2.3903	N. 13° 4' 3.7"	15.999	0	4 4 3.50	2.6785	N. 23° 50' 59.5"	10.199
1	2 6 23.94	2.3972	13 19 57.5	15.963	1	4 6 44.41	2.6851	24 1 2.0	9.953
2	2 8 43.78	2.4042	13 35 47.3	15.796	2	4 9 25.71	2.6916	24 10 53.9	9.776
3	2 11 4.04	2.4112	13 51 33.0	15.725	3	4 12 7.40	2.6980	24 20 35.1	9.596
4	2 13 24.73	2.4183	14 7 14.3	15.652	4	4 14 49.47	2.7043	24 30 5.4	9.414
5	2 15 45.84	2.4254	14 22 51.2	15.577	5	4 17 31.92	2.7105	24 39 24.8	9.231
6	2 18 7.38	2.4327	14 38 23.6	15.500	6	4 20 14.73	2.7165	24 48 33.1	9.045
7	2 20 29.36	2.4390	14 53 51.2	15.420	7	4 22 57.90	2.7224	24 57 30.2	8.857
8	2 22 51.78	2.4459	15 9 14.0	15.338	8	4 25 41.42	2.7282	25 6 16.0	8.669
9	2 25 14.63	2.4528	15 24 31.8	15.253	9	4 28 25.28	2.7338	25 14 50.5	8.479
10	2 27 37.93	2.4591	15 39 44.4	15.167	10	4 31 9.48	2.7393	25 23 13.5	8.287
11	2 30 1.68	2.4656	15 54 51.8	15.078	11	4 33 54.00	2.7447	25 31 24.9	8.093
12	2 32 25.88	2.4721	16 9 53.8	14.987	12	4 36 38.84	2.7498	25 39 24.6	7.897
13	2 34 50.53	2.4786	16 24 50.2	14.893	13	4 39 23.98	2.7548	25 47 12.5	7.700
14	2 37 15.63	2.4852	16 39 40.9	14.797	14	4 42 9.42	2.7597	25 54 48.6	7.502
15	2 39 41.19	2.4918	16 54 25.8	14.698	15	4 44 55.15	2.7644	26 2 12.8	7.303
16	2 42 7.21	2.4975	17 9 4.7	14.597	16	4 47 41.15	2.7689	26 9 24.9	7.101
17	2 44 33.69	2.5039	17 23 37.4	14.493	17	4 50 27.42	2.7733	26 16 24.9	6.899
18	2 47 0.63	2.5102	17 38 3.9	14.388	18	4 53 13.94	2.7777	26 23 12.8	6.696
19	2 49 28.03	2.5166	17 52 24.0	14.280	19	4 56 0.70	2.7813	26 29 48.4	6.490
20	2 51 55.90	2.5230	18 6 37.5	14.169	20	4 58 47.70	2.7853	26 36 11.6	6.283
21	2 54 24.24	2.5292	18 20 44.3	14.057	21	5 1 34.93	2.7889	26 42 22.4	6.076
22	2 56 53.05	2.5354	18 34 44.3	13.942	22	5 4 22.37	2.7922	26 48 20.7	5.868
23	2 59 22.32	2.5416	18 48 37.3	13.824	23	5 7 10.00	2.7954	26 54 6.6	5.660
24	3 1 52.06	2.5478	N. 19° 2' 23.2"	13.704	24	5 9 57.82	2.7984	N. 26° 59' 39.9"	5.449

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 17.					FRIDAY 19.				
0	h m s 57.82	2.7904	N.26° 59' 39.9"	5.440	0	h m s 7 23 36.40	2.6885	N.27° 15' 22.2"	4.508
1	5 12 45.81	2.8019	27 5 0.5	5.338	1	7 26 17.50	2.6814	27 10 40.7	4.784
2	5 15 33.97	2.8039	27 10 8.4	5.096	2	7 28 58.17	2.6742	27 5 48.1	4.988
3	5 18 22.28	2.8063	27 15 3.6	4.813	3	7 31 38.40	2.6668	27 0 44.5	5.151
4	5 21 10.72	2.8084	27 19 46.0	4.600	4	7 34 18.19	2.6594	26 55 30.0	5.332
5	5 23 59.29	2.8104	27 24 15.6	4.386	5	7 36 57.53	2.6519	26 50 4.6	5.512
6	5 26 47.97	2.8129	27 28 32.3	4.171	6	7 39 36.42	2.6442	26 44 28.5	5.690
7	5 29 36.75	2.8137	27 32 36.1	3.956	7	7 42 14.84	2.6364	26 38 41.8	5.866
8	5 32 25.61	2.8149	27 36 27.0	3.741	8	7 44 52.79	2.6286	26 32 44.6	6.041
9	5 35 14.54	2.8160	27 40 5.0	3.525	9	7 47 30.27	2.6207	26 26 36.9	6.213
10	5 38 3.53	2.8180	27 43 30.0	3.308	10	7 50 7.27	2.6126	26 20 19.0	6.383
11	5 40 52.57	2.8176	27 46 42.0	3.099	11	7 52 43.78	2.6043	26 13 50.9	6.552
12	5 43 41.64	2.8180	27 49 41.0	2.875	12	7 55 19.79	2.5960	26 7 12.8	6.718
13	5 46 30.73	2.8182	27 52 27.0	2.656	13	7 57 55.30	2.5877	26 0 24.7	6.883
14	5 49 19.82	2.8181	27 54 59.9	2.440	14	8 0 30.31	2.5793	25 53 26.8	7.047
15	5 52 8.90	2.8178	27 57 19.8	2.223	15	8 3 4.82	2.5708	25 46 19.1	7.208
16	5 54 57.96	2.8173	27 59 26.7	2.006	16	8 5 38.81	2.5622	25 39 1.8	7.367
17	5 57 46.98	2.8168	28 1 20.6	1.789	17	8 8 12.28	2.5535	25 31 35.1	7.523
18	6 0 35.95	2.8156	28 3 1.4	1.572	18	8 10 45.23	2.5448	25 23 59.0	7.679
19	6 3 24.85	2.8144	28 4 29.2	1.355	19	8 13 17.66	2.5361	25 16 13.6	7.833
20	6 6 13.68	2.8131	28 5 44.0	1.138	20	8 15 49.56	2.5273	25 8 19.1	7.984
21	6 9 2.42	2.8114	28 6 45.8	0.929	21	8 18 20.93	2.5185	25 0 15.5	8.133
22	6 11 51.05	2.8095	28 7 34.7	0.707	22	8 20 51.76	2.5094	24 52 3.1	8.288
23	6 14 39.56	2.8074	N.28° 8' 10.6"	0.491	23	8 23 22.06	2.5005	N.24° 43' 41.9"	8.438
THURSDAY 18.					SATURDAY 20.				
0	6 17 27.94	2.8051	N.28° 8' 33.6"	0.276	0	8 25 51.82	2.4915	N.24° 35' 12.0"	8.589
1	6 20 16.17	2.8025	28 8 43.7	+ 0.063	1	8 28 21.04	2.4835	24 26 33.6	8.710
2	6 23 4.24	2.7997	28 8 41.0	- 0.159	2	8 30 49.72	2.4754	24 17 46.8	8.856
3	6 25 52.14	2.7967	28 8 25.5	0.365	3	8 33 17.85	2.4643	24 8 51.6	8.988
4	6 28 39.85	2.7935	28 7 57.2	0.577	4	8 35 45.44	2.4552	23 59 48.2	9.123
5	6 31 27.36	2.7902	28 7 16.2	0.789	5	8 38 12.48	2.4460	23 50 36.8	9.257
6	6 34 14.67	2.7868	28 6 22.5	1.000	6	8 40 38.98	2.4371	23 41 17.4	9.388
7	6 37 1.75	2.7837	28 5 16.2	1.210	7	8 43 4.93	2.4279	23 31 50.2	9.517
8	6 39 48.59	2.7795	28 3 57.3	1.418	8	8 45 30.33	2.4188	23 22 15.3	9.646
9	6 42 35.18	2.7743	28 2 26.0	1.626	9	8 47 55.19	2.4097	23 12 32.7	9.772
10	6 45 21.51	2.7699	28 0 42.2	1.833	10	8 50 19.50	2.4006	23 2 42.7	9.894
11	6 48 7.57	2.7653	27 58 46.0	2.039	11	8 52 43.26	2.3915	22 52 45.4	10.016
12	6 50 53.35	2.7606	27 56 37.5	2.244	12	8 55 6.48	2.3824	22 42 40.8	10.138
13	6 53 38.83	2.7554	27 54 16.7	2.447	13	8 57 29.15	2.3733	22 32 29.1	10.253
14	6 56 24.00	2.7508	27 51 43.8	2.649	14	8 59 51.28	2.3642	22 22 10.4	10.369
15	6 59 8.85	2.7446	27 48 58.8	2.851	15	9 2 12.86	2.3552	22 11 44.8	10.483
16	7 1 53.37	2.7382	27 46 1.7	3.051	16	9 4 33.90	2.3460	22 1 12.4	10.596
17	7 4 37.55	2.7333	27 42 52.7	3.249	17	9 6 54.40	2.3372	21 50 33.3	10.708
18	7 7 21.37	2.7273	27 39 31.8	3.447	18	9 9 14.37	2.3283	21 39 47.7	10.813
19	7 10 4.83	2.7213	27 35 59.1	3.642	19	9 11 33.80	2.3193	21 28 55.7	10.919
20	7 12 47.93	2.7151	27 32 14.7	3.836	20	9 13 52.69	2.3104	21 17 57.4	11.024
21	7 15 30.64	2.7088	27 28 18.8	4.028	21	9 16 11.05	2.3016	21 6 52.8	11.127
22	7 18 12.96	2.7026	27 24 11.4	4.219	22	9 18 28.88	2.2926	20 55 42.1	11.228
23	7 20 54.88	2.6963	27 19 52.5	4.410	23	9 20 46.19	2.2841	20 44 25.4	11.327
24	7 23 36.40	2.6895	N.27° 15' 22.2"	4.598	24	9 23 2.97	2.2753	N.20° 33' 2.9"	11.423

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 21.					TUESDAY 23.				
0	9 23 2.97	2.3763	N. 20 33 2.9	11.423	0	11 3 28.83	1.9400	N. 10 3 48.0	14.242
1	9 25 19.23	2.3666	20 21 34.6	11.519	1	11 5 25.08	1.9359	9 49 32.7	14.268
2	9 27 34.97	2.3580	20 10 0.6	11.613	2	11 7 21.05	1.9304	9 35 15.9	14.293
3	9 29 50.19	2.3494	19 58 21.0	11.705	3	11 9 16.73	1.9257	9 20 57.6	14.318
4	9 32 4.90	2.3409	19 46 36.0	11.794	4	11 11 12.13	1.9210	9 6 37.8	14.341
5	9 34 19.10	2.3324	19 34 45.7	11.882	5	11 13 7.25	1.9165	8 52 16.7	14.363
6	9 36 32.79	2.3240	19 22 50.1	11.969	6	11 15 2.11	1.9121	8 37 54.3	14.384
7	9 38 45.98	2.3157	19 10 49.4	12.054	7	11 16 56.70	1.9077	8 23 30.6	14.404
8	9 40 58.67	2.3074	18 58 43.6	12.137	8	11 18 51.03	1.9034	8 9 5.8	14.423
9	9 43 10.87	2.1999	18 46 32.9	12.218	9	11 20 45.11	1.8992	7 54 39.9	14.441
10	9 45 22.57	2.1910	18 34 17.4	12.298	10	11 22 38.94	1.8952	7 40 12.9	14.458
11	9 47 33.79	2.1829	18 21 57.2	12.376	11	11 24 32.53	1.8912	7 25 44.9	14.474
12	9 49 44.52	2.1746	18 9 32.3	12.452	12	11 26 25.88	1.8872	7 11 16.0	14.489
13	9 51 54.77	2.1660	17 57 2.9	12.527	13	11 28 19.00	1.8834	6 56 46.2	14.503
14	9 54 4.55	2.1591	17 44 29.1	12.600	14	11 30 11.89	1.8797	6 42 15.6	14.516
15	9 56 13.87	2.1514	17 31 50.9	12.672	15	11 32 4.56	1.8760	6 27 44.3	14.528
16	9 58 22.72	2.1436	17 19 8.5	12.742	16	11 33 57.01	1.8724	6 13 12.3	14.539
17	10 0 31.10	2.1359	17 6 21.9	12.811	17	11 35 49.25	1.8690	5 58 39.6	14.550
18	10 2 39.02	2.1283	16 53 31.2	12.878	18	11 37 41.29	1.8656	5 44 6.3	14.559
19	10 4 46.49	2.1208	16 40 36.6	12.943	19	11 39 33.13	1.8623	5 29 32.5	14.567
20	10 6 53.52	2.1134	16 27 38.1	13.007	20	11 41 24.77	1.8591	5 14 58.2	14.575
21	10 9 0.10	2.1060	16 14 35.8	13.069	21	11 43 16.22	1.8559	5 0 23.5	14.582
22	10 11 6.24	2.0986	16 1 29.8	13.130	22	11 45 7.48	1.8529	4 45 48.4	14.587
23	10 13 11.95	2.0917	N. 15 48 20.2	13.189	23	11 46 58.57	1.8501	N. 4 31 13.0	14.592
MONDAY 22.					WEDNESDAY 24.				
0	10 15 17.24	2.0846	N. 15 35 7.1	13.247	0	11 48 49.49	1.8479	N. 4 16 37.3	14.596
1	10 17 22.10	2.0775	15 21 50.6	13.303	1	11 50 40.24	1.8444	4 2 1.4	14.599
2	10 19 26.54	2.0706	15 8 30.7	13.359	2	11 52 30.82	1.8417	3 47 25.4	14.601
3	10 21 30.57	2.0637	14 55 7.5	13.413	3	11 54 21.24	1.8391	3 32 49.3	14.602
4	10 23 34.19	2.0569	14 41 41.2	13.464	4	11 56 11.51	1.8366	3 18 13.1	14.603
5	10 25 37.40	2.0502	14 28 11.8	13.516	5	11 58 1.63	1.8342	3 3 36.9	14.603
6	10 27 40.21	2.0436	14 14 39.3	13.566	6	11 59 51.61	1.8318	2 49 0.7	14.602
7	10 29 42.63	2.0373	14 1 3.9	13.613	7	12 1 41.45	1.8295	2 34 24.6	14.600
8	10 31 44.67	2.0308	13 47 25.7	13.660	8	12 3 31.15	1.8273	2 19 48.7	14.597
9	10 33 46.32	2.0244	13 33 44.7	13.706	9	12 5 20.73	1.8253	2 5 13.0	14.593
10	10 35 47.60	2.0182	13 20 1.0	13.750	10	12 7 10.19	1.8233	1 50 37.6	14.588
11	10 37 48.51	2.0120	13 6 14.7	13.793	11	12 8 59.53	1.8213	1 36 2.4	14.584
12	10 39 49.04	2.0058	12 52 25.8	13.836	12	12 10 48.75	1.8195	1 21 27.5	14.578
13	10 41 49.21	1.9999	12 38 34.5	13.875	13	12 12 37.87	1.8178	1 6 53.0	14.571
14	10 43 49.03	1.9941	12 24 40.8	13.915	14	12 14 26.89	1.8161	0 52 19.0	14.563
15	10 45 48.50	1.9883	12 10 44.7	13.953	15	12 16 15.80	1.8144	0 37 45.5	14.554
16	10 47 47.63	1.9826	11 56 46.4	13.989	16	12 18 4.62	1.8129	0 23 12.5	14.545
17	10 49 46.41	1.9769	11 42 46.0	14.025	17	12 19 53.35	1.8115	N. 0 8 40.1	14.535
18	10 51 44.86	1.9714	11 28 43.4	14.060	18	12 21 42.00	1.8102	S. 0 5 51.7	14.524
19	10 53 42.98	1.9659	11 14 38.8	14.093	19	12 23 30.57	1.8089	0 20 22.8	14.512
20	10 55 40.77	1.9606	11 0 32.3	14.124	20	12 25 19.07	1.8077	0 34 53.2	14.500
21	10 57 38.25	1.9554	10 46 23.9	14.156	21	12 27 7.49	1.8065	0 49 22.8	14.487
22	10 59 35.42	1.9502	10 32 13.7	14.186	22	12 28 55.85	1.8055	1 3 51.6	14.473
23	11 1 32.28	1.9451	10 18 1.7	14.214	23	12 30 44.15	1.8046	1 18 19.5	14.458
24	11 3 28.83	1.9400	N. 10 3 48.0	14.242	24	12 32 32.40	1.8037	S. 1 32 46.6	14.443

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 25.					SATURDAY 27.				
0	12 32 32.40	1.8037	S. 1° 32' 46.6"	14.443	0	13 59 30.48	1.8469	S. 12° 33' 54.9"	12.817
1	12 34 20.60	1.8029	1 47 12.7	14.427	1	14 1 21.33	1.8487	12 46 42.4	12.765
2	12 36 8.75	1.8028	2 1 37.8	14.409	2	14 3 12.33	1.8519	12 59 26.7	12.712
3	12 37 56.86	1.8016	2 16 1.8	14.391	3	14 5 3.48	1.8537	13 12 7.8	12.658
4	12 39 44.94	1.8010	2 30 24.7	14.373	4	14 6 54.78	1.8564	13 24 45.6	12.603
5	12 41 32.98	1.8004	2 44 46.5	14.354	5	14 8 46.25	1.8591	13 37 20.1	12.548
6	12 43 20.99	1.8000	2 59 7.2	14.334	6	14 10 37.88	1.8619	13 49 51.3	12.492
7	12 45 8.98	1.7997	3 13 26.6	14.313	7	14 12 29.67	1.8647	14 2 19.1	12.434
8	12 46 56.96	1.7995	3 27 44.7	14.291	8	14 14 21.64	1.8676	14 14 43.4	12.376
9	12 48 44.92	1.7993	3 42 1.5	14.269	9	14 16 13.78	1.8704	14 27 4.2	12.317
10	12 50 32.87	1.7992	3 56 17.0	14.246	10	14 18 6.09	1.8733	14 39 21.4	12.258
11	12 52 20.82	1.7992	4 10 31.0	14.222	11	14 19 58.58	1.8764	14 51 35.1	12.198
12	12 54 8.77	1.7992	4 24 43.6	14.197	12	14 21 51.26	1.8795	15 3 45.2	12.137
13	12 55 56.73	1.7993	4 38 54.7	14.173	13	14 23 44.12	1.8826	15 15 51.6	12.075
14	12 57 44.69	1.7994	4 53 4.2	14.146	14	14 25 37.17	1.8857	15 27 54.2	12.012
15	12 59 32.66	1.7997	5 7 12.2	14.120	15	14 27 30.40	1.8888	15 39 53.0	11.948
16	13 1 20.65	1.8001	5 21 18.6	14.092	16	14 29 23.82	1.8920	15 51 48.0	11.884
17	13 3 8.67	1.8005	5 35 23.3	14.063	17	14 31 17.44	1.8953	16 3 39.1	11.818
18	13 4 56.71	1.8009	5 49 26.2	14.034	18	14 33 11.26	1.8987	16 15 26.2	11.752
19	13 6 44.78	1.8015	6 3 27.4	14.005	19	14 35 5.28	1.9020	16 27 9.3	11.685
20	13 8 32.89	1.8021	6 17 26.8	13.974	20	14 36 59.50	1.9054	16 38 48.4	11.618
21	13 10 21.04	1.8028	6 31 24.3	13.943	21	14 38 53.93	1.9088	16 50 23.5	11.551
22	13 12 9.23	1.8036	6 45 19.9	13.911	22	14 40 48.56	1.9123	17 1 54.5	11.481
23	13 13 57.47	1.8044	S. 6 59 13.6	13.879	23	14 42 43.41	1.9159	S. 17 13 21.2	11.409
FRIDAY 26.					SUNDAY 28.				
0	13 15 45.75	1.8052	S. 7 13 5.4	13.846	0	14 44 38.47	1.9195	S. 17 24 43.6	11.336
1	13 17 34.09	1.8062	7 26 55.1	13.811	1	14 46 33.75	1.9231	17 36 1.7	11.267
2	13 19 22.49	1.8073	7 40 42.7	13.776	2	14 48 29.24	1.9267	17 47 15.6	11.195
3	13 21 10.96	1.8084	7 54 28.2	13.741	3	14 50 24.95	1.9303	17 58 25.1	11.122
4	13 22 59.50	1.8096	8 8 11.6	13.704	4	14 52 20.88	1.9341	18 9 30.2	11.047
5	13 24 48.11	1.8108	8 21 52.7	13.667	5	14 54 17.04	1.9378	18 20 30.8	10.972
6	13 26 36.79	1.8120	8 35 31.6	13.629	6	14 56 13.42	1.9416	18 31 26.8	10.896
7	13 28 25.55	1.8134	8 49 8.2	13.590	7	14 58 10.03	1.9454	18 42 18.3	10.819
8	13 30 14.40	1.8149	9 2 42.4	13.551	8	15 0 6.87	1.9493	18 53 5.1	10.741
9	13 32 3.34	1.8164	9 16 14.3	13.511	9	15 2 3.94	1.9532	19 3 47.2	10.662
10	13 33 52.37	1.8179	9 29 43.7	13.469	10	15 4 1.25	1.9571	19 14 24.5	10.583
11	13 35 41.49	1.8195	9 43 10.6	13.428	11	15 5 58.79	1.9610	19 24 57.1	10.503
12	13 37 30.71	1.8212	9 56 35.1	13.386	12	15 7 56.57	1.9650	19 35 24.9	10.422
13	13 39 20.04	1.8230	10 9 57.0	13.344	13	15 9 54.59	1.9690	19 45 47.8	10.340
14	13 41 9.47	1.8248	10 23 16.2	13.302	14	15 11 52.85	1.9730	19 56 5.7	10.257
15	13 42 59.01	1.8267	10 36 32.8	13.254	15	15 13 51.34	1.9768	20 6 18.6	10.173
16	13 44 48.67	1.8287	10 49 46.7	13.208	16	15 15 50.07	1.9808	20 16 26.5	10.088
17	13 46 38.45	1.8306	11 2 57.8	13.163	17	15 17 49.05	1.9851	20 26 29.2	10.003
18	13 48 28.34	1.8326	11 16 6.2	13.116	18	15 19 48.28	1.9899	20 36 26.8	9.916
19	13 50 18.36	1.8348	11 29 11.7	13.068	19	15 21 47.75	1.9938	20 46 19.2	9.829
20	13 52 8.51	1.8370	11 42 14.3	13.019	20	15 23 47.47	1.9973	20 56 6.3	9.742
21	13 53 58.80	1.8392	11 55 14.0	12.970	21	15 25 47.43	2.0014	21 5 48.2	9.653
22	13 55 49.22	1.8415	12 8 10.7	12.919	22	15 27 47.64	2.0057	21 15 24.7	9.563
23	13 57 39.78	1.8438	12 21 4.3	12.868	23	15 29 48.11	2.0099	21 24 55.8	9.472
24	13 59 30.48	1.8462	S. 12 33 54.9	12.817	24	15 31 48.83	2.0141	S. 21 34 21.4	9.381

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 29.					WEDNESDAY 31.				
0	^h 15 ^m 31 ^s 48.83	2.0141	S. 21° 34' 21.4"	9.381	0	^h 17 ^m 13 ^s 10.13	2.1902	S. 27° 3' 43.0"	4.049
1	15 33 49.80	2.0182	21 43 41.5	9.289	1	17 15 22.17	2.2021	27 7 42.1	3.991
2	15 35 51.02	2.0224	21 52 56.0	9.196	2	17 17 34.38	2.2048	27 11 33.5	3.799
3	15 37 52.49	2.0266	22 2 5.0	9.109	3	17 19 46.75	2.2075	27 15 17.1	3.669
4	15 39 54.21	2.0308	22 11 8.3	9.007	4	17 21 59.28	2.2103	27 18 53.0	3.539
5	15 41 56.18	2.0350	22 20 5.8	8.911	5	17 24 11.98	2.2130	27 22 21.0	3.409
6	15 43 58.41	2.0392	22 28 57.6	8.815	6	17 26 24.84	2.2156	27 25 41.2	3.271
7	15 46 0.89	2.0434	22 37 43.6	8.717	7	17 28 37.85	2.2180	27 28 53.5	3.139
8	15 48 3.62	2.0477	22 46 23.7	8.619	8	17 30 51.00	2.2204	27 31 57.9	3.008
9	15 50 6.61	2.0519	22 54 57.9	8.520	9	17 33 4.30	2.2228	27 34 54.5	2.876
10	15 52 9.85	2.0562	23 3 26.1	8.420	10	17 35 17.74	2.2251	27 37 43.1	2.743
11	15 54 13.35	2.0604	23 11 48.3	8.320	11	17 37 31.31	2.2274	27 40 23.7	2.610
12	15 56 17.10	2.0646	23 20 4.5	8.218	12	17 39 45.02	2.2296	27 42 56.3	2.476
13	15 58 21.10	2.0688	23 28 14.5	8.115	13	17 41 58.86	2.2316	27 45 20.8	2.348
14	16 0 25.35	2.0730	23 36 18.3	8.012	14	17 44 12.81	2.2335	27 47 37.3	2.208
15	16 2 29.86	2.0772	23 44 16.0	7.909	15	17 46 26.88	2.2354	27 49 45.8	2.074
16	16 4 34.62	2.0813	23 52 7.4	7.804	16	17 48 41.06	2.2373	27 51 46.2	1.939
17	16 6 39.62	2.0854	23 59 52.4	7.698	17	17 50 55.35	2.2390	27 53 38.4	1.803
18	16 8 44.87	2.0896	24 7 31.1	7.592	18	17 53 9.74	2.2407	27 55 22.5	1.667
19	16 10 50.37	2.0937	24 15 3.4	7.484	19	17 55 24.23	2.2423	27 56 58.4	1.531
20	16 12 56.12	2.0978	24 22 29.2	7.376	20	17 57 38.82	2.2438	27 58 26.2	1.395
21	16 15 2.11	2.1019	24 29 48.5	7.267	21	17 59 53.49	2.2452	27 59 45.8	1.258
22	16 17 8.34	2.1059	24 37 1.2	7.157	22	18 2 8.24	2.2465	28 0 57.2	1.121
23	16 19 14.82	2.1101	S. 24 44 7.3	7.047	23	18 4 23.07	2.2478	S. 28 2 0.3	0.984
TUESDAY 30.					THURSDAY, JUNE 1.				
0	16 21 21.55	2.1141	S. 24 51 6.8	6.936	0	18 6 37.98	2.2491	S. 28 2 55.2	0.847
1	16 23 28.52	2.1181	24 57 59.6	6.823	PHASES OF THE MOON.				
2	16 25 35.72	2.1220	25 4 45.6	6.710					
3	16 27 43.16	2.1259	25 11 24.8	6.597					
4	16 29 50.83	2.1298	25 17 57.2	6.483					
5	16 31 58.74	2.1337	25 24 22.7	6.368	☾ Last Quarter. May d h m 8 14 24.2				
6	16 34 6.88	2.1376	25 30 41.3	6.253					
7	16 36 15.25	2.1413	25 36 53.0	6.136					
8	16 38 23.84	2.1451	25 42 57.6	6.018					
9	16 40 32.66	2.1489	25 48 55.1	5.899	● New Moon 15 10 46.6				
10	16 42 41.71	2.1526	25 54 45.5	5.781					
11	16 44 50.97	2.1562	26 0 28.8	5.662					
12	16 47 0.45	2.1598	26 6 4.9	5.542					
13	16 49 10.14	2.1633	26 11 33.8	5.421	☾ First Quarter 22 2 51.7				
14	16 51 20.05	2.1669	26 16 55.4	5.299					
15	16 53 30.17	2.1703	26 22 9.7	5.177					
16	16 55 40.49	2.1737	26 27 16.7	5.054					
17	16 57 51.02	2.1771	26 32 16.2	4.930	☾ Apogee May d h 2 18.0				
18	17 0 1.75	2.1804	26 37 8.3	4.807					
19	17 2 12.67	2.1837	26 41 53.0	4.688					
20	17 4 23.79	2.1869	26 46 30.1	4.566					
21	17 6 35.10	2.1900	26 50 59.7	4.431	☾ Perigee 15 18.7				
22	17 8 46.59	2.1931	26 55 21.8	4.304					
23	17 10 58.27	2.1962	26 59 36.2	4.177					
24	17 13 10.13	2.1992	S. 27 3 43.0	4.049					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Regulus W.	78° 43' 14"	3054	80° 12' 20"	3056	81° 41' 23"	3060	83° 10' 22"	3062
	SATURN W.	40 7 26	3022	41 37 12	3026	43 6 53	3029	44 36 30	3031
	Spica W.	24 40 53	3066	26 9 44	3068	27 38 33	3069	29 7 21	3069
	α Aquilæ E.	76 15 48	3054	75 3 23	3070	73 51 14	3067	72 39 22	4007
	Fomalhaut E.	103 38 1	3239	102 12 38	3241	100 47 17	3242	99 21 57	3243
2	Regulus W.	90 34 29	3074	92 3 10	3076	93 31 49	3078	95 0 25	3079
	SATURN W.	52 3 48	3043	53 33 7	3045	55 2 24	3047	56 31 38	3048
	Spica W.	36 31 1	3076	37 59 40	3077	39 28 18	3078	40 56 55	3078
	α Aquilæ E.	66 45 0	4118	65 35 16	4145	64 25 58	4174	63 17 7	4205
	Fomalhaut E.	92 15 42	3250	90 50 32	3253	89 25 25	3254	88 0 20	3256
3	Regulus W.	102 23 5	3084	103 51 34	3084	105 20 3	3084	106 48 32	3084
	SATURN W.	63 57 29	3052	65 26 37	3053	66 55 44	3053	68 24 51	3052
	Spica W.	48 19 48	3060	49 48 22	3060	51 16 56	3079	52 45 31	3079
	α Aquilæ E.	57 40 52	4395	56 35 26	4443	55 30 43	4492	54 26 44	4547
	Fomalhaut E.	80 55 27	3265	79 30 35	3267	78 5 45	3270	76 40 58	3271
	α Pegasi E.	101 47 39	3431	100 25 57	3427	99 4 11	3424	97 42 22	3421
4	Regulus W.	114 11 6	3079	115 39 41	3078	117 8 18	3075	118 36 58	3073
	SATURN W.	75 50 41	3047	77 19 56	3045	78 49 13	3043	80 18 33	3039
	Spica W.	60 8 43	3072	61 37 27	3069	63 6 14	3067	64 35 4	3064
	α Aquilæ E.	49 19 45	4267	48 21 20	4274	47 24 4	5068	46 28 2	5170
	Fomalhaut E.	69 37 39	3282	68 13 7	3285	66 48 38	3288	65 24 12	3291
	α Pegasi E.	90 52 30	3400	89 30 24	3408	88 8 16	3406	86 46 6	3404
5	SATURN W.	87 46 11	3022	89 15 57	3018	90 45 48	3012	92 15 46	3007
	Spica W.	72 0 15	3045	73 29 32	3041	74 58 54	3035	76 28 23	3030
	Antares W.	26 5 59	3045	27 35 16	3039	29 4 40	3034	30 34 10	3029
	Fomalhaut E.	58 22 56	3397	56 58 53	3313	55 34 56	3318	54 11 5	3293
	α Pegasi E.	79 54 49	3398	78 32 30	3396	77 10 9	3395	75 47 47	3395
6	SATURN W.	99 47 22	2975	101 18 6	2987	102 49 0	2980	104 20 3	2961
	Spica W.	83 57 38	2997	85 27 54	2990	86 58 19	2981	88 28 55	2973
	Antares W.	38 3 34	2996	39 33 53	2998	41 4 21	2979	42 35 0	2971
	Fomalhaut E.	47 13 44	3365	45 50 47	3376	44 28 3	3390	43 5 35	3405
	α Pegasi E.	68 55 56	3396	67 33 35	3398	66 11 16	3400	64 48 59	3401
	SUN E.	119 32 26	3357	118 9 20	3346	116 46 4	3339	115 22 38	3331
7	Spica W.	96 4 41	2996	97 36 27	2915	99 8 27	2904	100 40 41	2892
	Antares W.	50 11 3	2993	51 42 53	2912	53 14 57	2901	54 47 15	2899
	α Pegasi E.	57 58 25	3433	56 36 35	3431	55 14 53	3439	53 53 21	3450
	SUN E.	108 22 42	3278	106 58 5	3267	105 33 15	3254	104 8 10	3242
8	Spica W.	108 25 42	2929	109 59 32	2816	111 33 39	2801	113 8 5	2787
	Antares W.	62 32 38	2925	64 6 33	2811	65 40 46	2798	67 15 17	2783
	α Pegasi E.	47 9 15	3532	45 49 26	3556	44 30 4	3586	43 11 14	3606
	SUN E.	96 58 57	3173	95 32 16	3159	94 5 18	3143	92 38 1	3129
9	Spica W.	121 5 6	2710	122 41 32	2625	124 18 19	2678	125 55 28	2682
	Antares W.	75 12 48	2706	76 49 21	2689	78 26 15	2672	80 3 32	2656
	SUN E.	85 16 44	3044	83 47 26	3027	82 17 47	3009	80 47 45	2991

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIh.	P. L. of Diff.	XXh.	P. L. of Diff.
1	Regulus W.	84° 39' 18"	3065	86° 8' 10"	3068	87° 36' 59"	3070	89° 5' 45"	3072
	SATURN W.	46 6 4	3034	47 35 35	3037	49 5 2	3039	50 84 26	3041
	Spica W.	30 36 8	3070	32 4 54	3072	33 33 38	3073	35 2 20	3074
	α Aquilæ E.	71 27 49	4026	70 16 35	4046	69 5 41	4069	67 55 9	4092
	Fomalhaut E.	97 56 39	3944	96 31 22	3946	95 6 7	3947	93 40 54	3948
2	Regulus W.	96 29 0	3081	97 57 33	3082	99 26 5	3083	100 54 35	3083
	SATURN W.	58 0 51	3050	59 30 2	3051	60 59 12	3052	62 28 21	3052
	Spica W.	42 25 31	3079	43 54 6	3080	45 22 40	3080	46 51 14	3080
	α Aquilæ E.	62 8 46	4238	61 0 56	4274	59 53 39	4211	58 46 57	4252
	Fomalhaut E.	86 35 17	3958	85 10 16	3960	83 45 18	3961	82 20 21	3964
3	Regulus W.	108 17 1	3083	109 45 31	3083	111 14 1	3082	112 42 33	3081
	SATURN W.	69 53 59	3052	71 23 7	3051	72 52 17	3050	74 21 28	3048
	Spica W.	54 14 6	3078	55 42 43	3077	57 11 21	3075	58 40 1	3073
	α Aquilæ E.	53 23 33	4204	52 21 12	4268	51 19 45	4735	50 19 15	4808
	Fomalhaut E.	75 16 13	3974	73 51 31	3976	72 26 51	3978	71 2 14	3980
	α Pegasi E.	96 20 29	3418	94 58 33	3416	93 36 35	3414	92 14 34	3411
4	Regulus W.	120 5 40	3071	121 34 25	3068	123 3 14	3065	124 32 7	3061
	SATURN W.	81 47 57	3037	83 17 24	3034	84 46 55	3030	86 16 31	3026
	Spica W.	66 3 58	3061	67 32 55	3057	69 1 57	3053	70 31 4	3050
	α Aquilæ E.	45 33 18	5283	44 39 58	5404	43 48 6	5436	42 57 49	5586
	Fomalhaut E.	63 59 50	3994	62 35 31	3996	61 11 15	3990	59 47 3	3994
	α Pegasi E.	85 23 54	3402	84 1 40	3401	82 39 25	3400	81 17 8	3398
5	SATURN W.	93 45 50	3001	95 16 1	2995	96 46 20	2989	98 16 47	2982
	Spica W.	77 57 59	3094	79 27 42	3018	80 57 32	3011	82 27 31	3005
	Antares W.	32 3 47	3022	33 33 32	3017	35 3 24	3009	36 33 25	3003
	Fomalhaut E.	52 47 20	3929	51 23 42	3937	50 0 13	3945	48 36 53	3954
	α Pegasi E.	74 25 25	3394	73 3 2	3395	71 40 40	3395	70 18 18	3395
6	SATURN W.	105 51 17	2942	107 22 42	2934	108 54 18	2924	110 26 6	2914
	Spica W.	89 59 41	2965	91 30 38	2955	93 1 47	2946	94 33 8	2936
	Antares W.	44 5 49	2992	45 36 50	2953	47 8 2	2943	48 39 26	2933
	Fomalhaut E.	41 43 24	3423	40 21 34	3444	39 0 7	3468	37 39 7	3497
	α Pegasi E.	63 26 44	3404	62 4 32	3408	60 42 25	3412	59 20 22	3417
	SUN E.	113 59 2	3321	112 35 15	3311	111 11 16	3300	109 47 5	3290
7	Spica W.	102 13 10	2880	103 45 54	2868	105 18 54	2855	106 52 10	2843
	Antares W.	56 19 48	2877	57 52 36	2865	59 25 40	2852	60 59 0	2838
	α Pegasi E.	52 32 1	3492	51 10 54	3475	49 50 2	3491	48 29 28	3510
	SUN E.	102 42 51	3229	101 17 16	3216	99 51 26	3203	98 25 20	3188
8	Spica W.	114 42 50	2772	116 17 54	2757	117 53 18	2742	119 29 2	2727
	Antares W.	68 50 7	2768	70 25 17	2753	72 0 47	2738	73 36 37	2722
	α Pegasi E.	41 53 1	3659	40 35 30	3703	39 18 46	3755	38 2 57	3816
	SUN E.	91 10 26	3112	89 42 31	3096	88 14 16	3078	86 45 40	3062
9	Spica W.	127 32 59	2645	129 10 53	2628	130 49 10	2610	132 27 51	2593
	Antares W.	81 41 11	2638	83 19 14	2621	84 57 40	2604	86 36 30	2585
	SUN E.	79 17 21	2972	77 46 33	2954	76 15 22	2935	74 43 47	2916

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LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
10	Antares	W.	88° 15' 45"	2568	89° 55' 24"	2549	91° 35' 29"	2531	93° 15' 59"	2513
	α Aquilæ	W.	48 27 44	4373	49 33 30	4366	50 40 54	4165	51 49 53	4072
	SUN	E.	73 11 48	2896	71 39 24	2876	70 6 35	2857	68 33 21	2838
11	Antares	W.	101 44 56	2430	103 28 2	2401	105 11 35	2382	106 55 35	2364
	α Aquilæ	W.	57 56 1	3685	59 13 4	3692	60 31 15	3562	61 50 31	3505
	SUN	E.	60 40 47	2738	59 4 58	2718	57 28 42	2698	55 52 0	2679
12	α Aquilæ	W.	68 41 35	3966	70 6 26	3927	71 32 3	3189	72 58 25	3153
	Fomalhaut	W.	36 24 29	2831	37 58 16	2771	39 33 22	2716	41 9 41	2666
	SUN	E.	47 41 58	2583	46 2 40	2565	44 22 57	2547	42 42 49	2529
13	α Aquilæ	W.	80 20 3	3009	81 50 4	2988	83 20 32	2967	84 51 26	2949
	Fomalhaut	W.	49 26 27	2470	51 8 23	2438	52 51 3	2410	54 34 24	2383
	SUN	E.	34 16 12	2448	32 33 46	2434	30 51 0	2420	29 7 54	2406
17	SUN	W.	22 25 45	2321	24 11 14	2325	25 56 37	2332	27 41 50	2340
	Regulus	E.	69 31 9	2083	67 38 11	2039	65 45 27	2041	63 52 57	2051
	SATURN	E.	107 17 56	2001	105 24 24	2009	103 31 4	2017	101 37 57	2028
18	SUN	W.	36 24 27	2325	38 8 9	2408	39 51 32	2422	41 34 36	2436
	Regulus	E.	54 34 37	2111	52 43 54	2124	50 53 32	2139	49 3 32	2153
	SATURN	E.	92 16 28	2064	90 25 4	2098	88 34 1	2111	86 43 18	2125
19	SUN	W.	50 4 35	2515	51 45 27	2532	53 25 56	2549	55 6 1	2568
	Regulus	E.	39 59 25	2237	38 11 52	2256	36 24 47	2275	34 38 10	2294
	SATURN	E.	77 35 14	2200	75 46 46	2216	73 58 43	2233	72 11 4	2249
	Spica	E.	93 57 13	2214	92 9 6	2230	90 21 23	2246	88 34 4	2262
20	SUN	W.	63 20 18	2257	64 57 55	2276	66 35 7	2295	68 11 54	2314
	MARS	W.	28 59 7	2581	30 38 28	2596	32 17 28	2612	33 56 6	2628
	SATURN	E.	63 19 1	2335	61 33 52	2352	59 49 8	2370	58 4 50	2387
	Spica	E.	79 43 40	2348	77 58 51	2366	76 14 27	2383	74 30 28	2401
21	SUN	W.	76 9 33	2208	77 43 51	2226	79 17 45	2245	80 51 15	2263
	MARS	W.	42 3 46	2712	43 40 10	2729	45 16 11	2746	46 51 50	2763
	Pollux	W.	24 54 19	2491	26 35 45	2507	28 16 48	2525	29 57 27	2540
	SATURN	E.	49 29 35	2475	47 47 46	2492	46 6 22	2510	44 25 22	2526
	Spica	E.	65 56 51	2489	64 15 22	2506	62 34 17	2523	60 53 36	2540
22	SUN	W.	88 32 57	2252	90 4 10	2269	91 35 1	2286	93 5 31	2302
	MARS	W.	54 44 30	2247	56 17 57	2263	57 51 3	2280	59 23 48	2295
	Pollux	W.	38 15 8	2291	39 53 35	2307	41 31 40	2322	43 9 24	2337
	SATURN	E.	36 6 10	2210	34 27 28	2226	32 49 7	2241	31 11 8	2256
	Spica	E.	52 36 5	2294	50 57 43	2310	49 19 43	2327	47 42 5	2342
	Antares	E.	98 28 3	2218	96 49 33	2234	95 11 24	2250	93 33 37	2265
23	SUN	W.	100 32 58	2069	102 1 29	2097	103 29 42	2112	104 57 37	2127
	MARS	W.	67 2 38	2271	68 33 27	2285	70 3 59	2299	71 34 13	2313
	Pollux	W.	51 13 6	2740	52 48 53	2753	54 24 22	2766	55 59 34	2778
	Spica	E.	39 39 7	2749	38 3 32	2763	36 28 16	2778	34 53 19	2792
	Antares	E.	85 29 43	2738	83 53 54	2753	82 18 24	2766	80 43 11	2779

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10	Antares W.	94 56 54	2494	96 38 16	2476	98 20 3	2458	100 2 16	2438
	α Aquilæ W.	53 0 22	3984	54 12 17	3903	55 25 34	3825	56 40 10	3753
	Sun E.	66 59 42	2818	65 25 37	2798	63 51 7	2778	62 16 10	2758
11	Antares W.	108 40 1	2346	110 24 54	2328	112 10 13	2310	113 55 58	2291
	α Aquilæ W.	63 10 50	3451	64 32 9	3401	65 54 24	3353	67 17 34	3309
	Sun E.	54 14 52	2660	52 37 18	2640	50 59 17	2621	49 20 50	2602
12	α Aquilæ W.	74 25 30	3121	75 53 14	3090	77 21 36	3061	78 50 33	3034
	Fomalhaut W.	42 47 6	2620	44 25 34	2578	46 4 59	2539	47 45 18	2503
	Sun E.	41 2 16	2512	39 21 19	2495	37 39 59	2479	35 58 16	2464
13	α Aquilæ W.	86 22 43	2939	87 54 21	2917	89 26 18	2905	90 58 30	2894
	Fomalhaut W.	56 18 23	2358	58 2 58	2335	59 48 7	2313	61 33 47	2294
	Sun E.	27 24 30	2306	25 40 49	2284	23 56 52	2275	22 12 42	2268
17	Sun W.	29 26 51	2350	31 11 38	2359	32 56 11	2371	34 40 27	2382
	Regulus E.	62 0 42	2062	60 8 44	2073	58 17 3	2085	56 25 40	2098
	SATURN E.	99 45 6	2038	97 52 31	2048	96 0 12	2060	94 8 11	2072
18	Sun W.	43 17 19	2451	44 59 41	2467	46 41 41	2482	48 23 19	2498
	Regulus E.	47 13 54	2169	45 24 40	2185	43 35 50	2202	41 47 25	2218
	SATURN E.	84 52 57	2139	83 2 57	2154	81 13 20	2169	79 24 5	2184
19	Sun W.	56 45 42	2585	58 24 58	2602	60 3 50	2621	61 42 16	2639
	Regulus E.	32 52 1	2314	31 6 22	2335	29 21 14	2357	27 36 38	2380
	SATURN E.	70 23 50	2266	68 37 0	2283	66 50 35	2300	65 4 35	2317
	Spica E.	86 47 9	2279	85 0 39	2296	83 14 34	2313	81 28 54	2231
20	Sun W.	69 48 15	2733	71 24 11	2751	72 59 43	2770	74 34 50	2788
	MARS W.	35 34 23	2644	37 12 18	2661	38 49 50	2678	40 26 59	2695
	SATURN E.	56 20 57	2405	54 37 29	2422	52 54 26	2440	51 11 48	2458
	Spica E.	72 46 55	2418	71 3 46	2436	69 21 3	2454	67 38 45	2471
21	Sun W.	82 24 21	2881	83 57 4	2899	85 29 24	2916	87 1 22	2935
	MARS W.	48 27 6	2780	50 2 0	2797	51 36 32	2814	53 10 42	2831
	Pollux W.	31 37 44	2557	33 17 38	2573	34 57 10	2589	36 36 20	2605
	SATURN E.	42 44 45	2543	41 4 32	2560	39 24 42	2577	37 45 15	2593
	Spica E.	59 13 19	2558	57 33 26	2574	55 53 56	2591	54 14 49	2608
22	Sun W.	94 35 41	3019	96 5 30	3035	97 34 59	3052	99 4 8	3067
	MARS W.	60 56 13	2911	62 28 18	2926	64 0 4	2949	65 31 30	2956
	Pollux W.	44 46 48	2692	46 23 52	2697	48 0 36	2711	49 37 1	2726
	SATURN E.	29 33 29	2672	27 56 11	2687	26 19 13	2701	24 42 35	2716
	Spica E.	46 4 48	2688	44 27 52	2704	42 51 17	2719	41 15 2	2734
	Antares E.	91 56 10	2680	90 19 3	2695	88 42 17	2710	87 5 50	2725
23	Sun W.	106 25 14	3140	107 52 35	3154	109 19 39	3168	110 46 27	3181
	MARS W.	73 4 10	3096	74 33 50	3039	76 3 14	3052	77 32 22	3065
	Pollux W.	57 34 28	2792	59 9 6	2805	60 43 27	2818	62 17 32	2829
	Spica E.	33 18 40	2806	31 44 20	2820	30 10 18	2834	28 36 34	2847
	Antares E.	79 8 15	2792	77 33 36	2805	75 59 14	2816	74 25 7	2828

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24	SUN W.	112° 12' 59"	3193	113° 39' 16"	3206	115° 5' 18"	3218	116° 31' 6"	3231
	MARS W.	79 1 15	3077	80 29 53	3083	81 58 17	3101	83 26 26	3111
	Pollux W.	63 51 22	2941	65 24 57	2952	66 58 18	2963	68 31 24	2973
	Regulus W.	27 28 42	2888	29 1 16	2894	30 33 42	2901	32 5 59	2909
	Antares E.	72 51 16	2940	71 17 40	2952	69 44 19	2962	68 11 12	2973
25	SUN W.	123 36 42	3264	125 1 12	3294	126 25 31	3304	127 49 38	3313
	MARS W.	90 43 59	3162	92 10 54	3172	93 37 37	3180	95 4 10	3189
	Pollux W.	76 13 41	2922	77 45 32	2931	79 17 12	2939	80 48 42	2947
	Regulus W.	39 45 2	2946	41 16 22	2953	42 47 34	2960	44 18 37	2967
	Antares E.	60 28 52	2921	58 57 0	2931	57 25 20	2939	55 53 50	2947
	α Aquilæ E.	108 17 11	3268	107 3 19	3280	105 49 19	3255	104 35 13	3251
26	MARS W.	102 14 26	3227	103 40 3	3235	105 5 31	3241	106 30 52	3247
	Pollux W.	88 23 43	2983	89 54 17	2989	91 24 43	2995	92 55 2	3001
	Regulus W.	51 51 45	2998	53 22 0	3005	54 52 7	3010	56 22 7	3015
	Antares E.	48 18 49	2984	46 48 16	2989	45 17 50	2995	43 47 32	2991
	α Aquilæ E.	98 23 54	3241	97 9 34	3242	95 55 15	3243	94 40 57	3245
27	MARS W.	113 35 51	3275	115 0 32	3279	116 25 8	3284	117 49 38	3288
	Pollux W.	100 24 52	3026	101 54 32	3030	103 24 7	3034	104 53 37	3039
	Regulus W.	63 50 38	3038	65 20 4	3042	66 49 25	3046	68 18 41	3049
	SATURN W.	26 12 50	3020	27 42 38	3023	29 12 22	3027	30 42 1	3031
	Antares E.	36 17 47	3027	34 48 8	3032	33 18 35	3036	31 49 7	3040
	α Aquilæ E.	88 30 14	3266	87 16 20	3272	86 2 32	3279	84 48 51	3287
28	Pollux W.	112 20 2	3054	113 49 8	3056	115 18 11	3059	116 47 11	3061
	Regulus W.	75 44 3	3064	77 12 57	3065	78 41 49	3068	80 10 38	3070
	SATURN W.	38 9 11	3047	39 38 26	3049	41 7 38	3052	42 36 47	3053
	Spica W.	21 42 20	3082	23 10 51	3082	24 39 23	3081	26 7 56	3081
	α Aquilæ E.	78 42 40	3237	77 29 58	3249	76 17 28	3253	75 5 12	3257
	Fomalhaut E.	106 29 34	3258	105 4 33	3258	103 39 32	3257	102 14 30	3257
29	Regulus W.	87 34 10	3077	89 2 48	3078	90 31 24	3078	92 0 0	3079
	SATURN W.	50 1 59	3061	51 30 56	3062	52 59 52	3063	54 28 47	3064
	Spica W.	33 30 44	3080	34 59 18	3080	36 27 52	3080	37 56 26	3080
	α Aquilæ E.	69 7 53	4069	67 57 21	4091	66 47 11	4115	65 37 24	4140
	Fomalhaut E.	95 9 20	3258	93 44 19	3258	92 19 18	3258	90 54 17	3258
	α Pegasi E.	115 22 35	3487	114 1 56	3479	112 41 8	3470	111 20 10	3463
30	Regulus W.	99 22 52	3079	100 51 27	3079	102 20 2	3078	103 48 38	3078
	SATURN W.	61 53 15	3064	63 22 9	3064	64 51 3	3063	66 19 58	3063
	Spica W.	45 19 23	3077	46 48 1	3076	48 16 40	3075	49 45 20	3074
	α Aquilæ E.	59 55 9	4298	58 48 14	4339	57 41 57	4380	56 36 18	4425
	Fomalhaut E.	83 49 23	3262	82 24 27	3263	80 59 32	3264	79 34 38	3265
	α Pegasi E.	104 33 27	3431	103 11 46	3427	101 50 0	3423	100 28 9	3418
31	SATURN W.	73 44 51	3056	75 13 55	3054	76 43 1	3052	78 12 9	3050
	Spica W.	57 9 4	3066	58 37 55	3064	60 6 49	3061	61 35 46	3060
	α Aquilæ E.	51 19 10	4711	50 18 20	4785	49 18 31	4864	48 19 47	4949
	Fomalhaut E.	72 30 29	3272	71 5 45	3274	69 41 3	3276	68 16 24	3278
	α Pegasi E.	93 37 47	3401	92 15 32	3399	90 53 14	3396	89 30 53	3394

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LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
24	SUN W.	117° 56' 39"	3949	119° 21' 59"	3953	120° 47' 6"	3964	122° 12' 0"	3974
	MARS W.	84 54 22	3129	86 22 5	3133	87 49 35	3143	89 16 53	3153
	Pollux W.	70 4 17	2989	71 36 57	2994	73 9 24	2994	74 41 38	2919
	Regulus W.	33 38 6	2916	35 10 4	2924	36 41 53	2931	38 13 32	2939
	Antares E.	66 38 18	2983	65 5 38	2983	63 33 10	2903	62 0 55	2919
25	SUN W.	129 13 35	3329	130 37 21	3331	132 0 57	3339	133 24 23	3347
	MARS W.	96 30 32	3199	97 56 44	3205	99 22 47	3213	100 48 41	3220
	Pollux W.	82 20 1	2955	83 51 10	2962	85 22 10	2969	86 53 1	2977
	Regulus W.	45 49 31	2973	47 20 17	2981	48 50 54	2987	50 21 23	2993
	Antares E.	54 22 31	2955	52 51 22	2969	51 20 22	2969	49 49 31	2977
	α Aquilæ E.	103 21 3	3847	102 6 49	3844	100 52 32	3849	99 38 13	3849
26	MARS W.	107 56 5	3853	109 21 11	3859	110 46 11	3865	112 11 4	3970
	Pollux W.	94 25 13	3007	95 55 17	3019	97 25 15	3018	98 55 6	3029
	Regulus W.	57 52 1	3090	59 21 49	3095	60 51 31	3030	62 21 7	3034
	Antares E.	42 17 21	3007	40 47 17	3014	39 17 21	3018	37 47 31	3023
	α Aquilæ E.	93 26 41	3848	92 12 28	3859	90 58 19	3856	89 44 14	3860
27	MARS W.	119 14 4	3999	120 38 25	3996	122 2 41	3900	123 26 53	3904
	Pollux W.	106 23 2	3049	107 52 23	3045	109 21 40	3048	110 50 53	3052
	Regulus W.	69 47 53	3058	71 17 1	3066	72 46 5	3058	74 15 6	3061
	SATURN W.	32 11 35	3034	33 41 5	3038	35 10 31	3041	36 39 53	3044
	Antares E.	30 19 45	3044	28 50 27	3048	27 21 14	3052	25 52 5	3056
	α Aquilæ E.	83 35 18	3896	82 21 54	3905	81 8 89	3915	79 55 34	3925
28	Pollux W.	118 16 8	3083	119 45 3	3085	121 13 56	3066	122 42 47	3068
	Regulus W.	81 39 24	3079	83 8 8	3073	84 36 50	3074	86 5 31	3076
	SATURN W.	44 5 54	3056	45 34 58	3057	47 4 0	3059	48 33 0	3060
	Spica W.	27 36 29	3081	29 5 2	3080	30 33 36	3080	32 2 10	3080
	α Aquilæ E.	73 53 11	3993	72 41 25	4011	71 29 56	4099	70 18 45	4048
	Fomalhaut E.	100 49 28	3257	99 24 26	3257	97 59 24	3257	96 34 22	3257
29	Regulus W.	93 28 35	3079	94 57 10	3080	96 25 44	3080	97 54 18	3080
	SATURN W.	55 57 41	3064	57 26 35	3065	58 55 28	3065	60 24 21	3064
	Spica W.	39 25 0	3079	40 53 35	3079	42 22 10	3078	43 50 46	3078
	α Aquilæ E.	64 28 1	4168	63 19 5	4197	62 10 36	4229	61 2 37	4269
	Fomalhaut E.	89 29 17	3259	88 4 17	3259	86 39 18	3260	85 14 20	3261
	α Pegasi E.	109 59 4	3455	108 37 50	3449	107 16 29	3443	105 55 1	3438
30	Regulus W.	105 17 14	3077	106 45 52	3078	108 14 31	3075	109 43 11	3073
	SATURN W.	67 48 54	3061	69 17 51	3060	70 46 49	3059	72 15 49	3057
	Spica W.	51 14 1	3073	52 42 44	3071	54 11 29	3070	55 40 15	3068
	α Aquilæ E.	55 31 19	4474	54 27 4	4506	53 23 35	4594	52 20 56	4645
	Fomalhaut E.	78 9 45	3266	76 44 54	3267	75 20 4	3269	73 55 16	3270
	α Pegasi E.	99 6 13	3415	97 44 13	3410	96 22 8	3407	94 59 59	3404
31	SATURN W.	79 41 20	3047	81 10 34	3045	82 39 51	3043	84 9 11	3039
	Spica W.	63 4 45	3057	64 33 47	3054	66 2 58	3051	67 32 3	3048
	α Aquilæ E.	47 22 11	5041	46 25 48	5144	45 30 44	5254	44 37 3	5377
	Fomalhaut E.	66 51 47	3282	65 27 14	3284	64 2 44	3288	62 38 18	3291
	α Pegasi E.	88 8 30	3399	86 46 4	3391	85 23 37	3389	84 1 8	3388

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Added to Apparent Time.				
Thur.	1	^h 4 ^m 38 ^s 22.83	10.236	N. 22° 7' 45.9"	+19.93	15' 48.33	68.44	^m 2 ^s 23.00		0.378	
Frid.	2	4 42 28.69	10.252	22 15 32.6	18.96	15 48.20	68.49	2 13.73		0.395	
Sat.	3	4 46 34.94	10.268	22 22 56.1	17.99	15 48.07	68.54	2 4.06		0.410	
SUN.	4	4 50 41.55	10.283	22 29 56.2	+17.01	15 47.94	68.59	1 54.03		0.425	
Mon.	5	4 54 48.53	10.297	22 36 32.8	16.03	15 47.81	68.64	1 43.64		0.440	
Tues.	6	4 58 55.85	10.312	22 42 45.6	15.04	15 47.69	68.68	1 32.91		0.454	
Wed.	7	5 3 3.50	10.325	22 48 34.7	+14.05	15 47.57	68.72	1 21.85		0.467	
Thur.	8	5 7 11.45	10.338	22 53 59.8	13.04	15 47.45	68.76	1 10.49		0.479	
Frid.	9	5 11 19.67	10.348	22 59 0.8	12.04	15 47.34	68.79	0 58.86		0.490	
Sat.	10	5 15 28.16	10.359	23 3 37.5	+11.02	15 47.24	68.82	0 46.96		0.500	
SUN.	11	5 19 36.88	10.368	23 7 50.0	10.01	15 47.14	68.85	0 34.84		0.510	
Mon.	12	5 23 45.82	10.377	23 11 37.9	8.99	15 47.04	68.88	0 22.49		0.519	
Tues.	13	5 27 54.94	10.383	23 15 1.3	+ 7.96	15 46.95	68.90	0 9.95		0.525	
Wed.	14	5 32 4.22	10.389	23 18 0.2	6.94	15 46.87	68.92	0 2.73		0.531	
Thur.	15	5 36 13.62	10.394	23 20 34.3	5.90	15 46.79	68.93	0 15.54		0.536	
Frid.	16	5 40 23.13	10.398	23 22 43.6	+ 4.87	15 46.72	68.95	0 28.45		0.540	
Sat.	17	5 44 32.72	10.400	23 24 28.2	3.84	15 46.65	68.96	0 41.44		0.542	
SUN.	18	5 48 42.35	10.402	23 25 47.9	2.81	15 46.59	68.97	0 54.48		0.544	
Mon.	19	5 52 52.00	10.402	23 26 42.9	+ 1.77	15 46.53	68.97	1 7.54		0.544	
Tues.	20	5 57 1.65	10.401	23 27 12.9	+ 0.74	15 46.48	68.97	1 20.59		0.543	
Wed.	21	6 1 11.27	10.399	23 27 18.2	- 0.30	15 46.44	68.97	1 33.61		0.541	
Thur.	22	6 5 20.83	10.397	23 26 58.6	- 1.33	15 46.39	68.96	1 46.58		0.539	
Frid.	23	6 9 30.31	10.393	23 26 14.2	2.37	15 46.36	68.95	1 59.48		0.535	
Sat.	24	6 13 39.70	10.389	23 25 5.0	3.40	15 46.32	68.94	2 12.27		0.530	
SUN.	25	6 17 48.96	10.383	23 23 31.1	- 4.42	15 46.29	68.92	2 24.93		0.525	
Mon.	26	6 21 58.06	10.377	23 21 32.6	5.45	15 46.26	68.90	2 37.46		0.519	
Tues.	27	6 26 7.04	10.370	23 19 9.5	6.48	15 46.24	68.88	2 49.82		0.511	
Wed.	28	6 30 15.81	10.361	23 16 21.8	- 7.49	15 46.22	68.86	3 2.00		0.504	
Thur.	29	6 34 24.39	10.353	23 13 9.8	8.51	15 46.20	68.83	3 13.99		0.495	
Frid.	30	6 38 32.74	10.343	23 9 33.3	9.52	15 46.19	68.80	3 25.76		0.485	
Sat.	31	6 42 40.86	10.333	N. 23° 5' 32.6"	-10.53	15 46.18	68.76	3 37.29		0.475	

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.19 from the sidereal time.
 The sign + prefixed to the hourly change of declination indicates that north declinations are increasing;
 the sign - indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Subtracted from Mean Time.		
Thur.	1	^h 4 ^m 38 ^s 23.24	10.235	N. 22° 7' 46.7"	+19.92	^m 2 22.98	0.378	^h 4 40 ^m 46.22
Frid.	2	4 42 29.07	10.251	22 15 33.3	18.96	2 13.71	0.394	4 44 42.78
Sat.	3	4 46 35.29	10.267	22 22 56.7	17.99	2 4.05	0.410	4 48 39.34
SUN.	4	4 50 41.88	10.282	22 29 56.7	+17.01	1 54.02	0.425	4 52 35.90
Mon.	5	4 54 48.83	10.296	22 36 33.2	16.03	1 43.63	0.440	4 56 32.46
Tues.	6	4 58 56.12	10.310	22 42 46.1	15.04	1 32.90	0.454	5 0 29.02
Wed.	7	5 3 3.73	10.323	22 48 35.0	+14.04	1 21.84	0.467	5 4 25.57
Thur.	8	5 7 11.65	10.336	22 54 0.1	13.04	1 10.48	0.479	5 8 22.13
Frid.	9	5 11 19.84	10.347	22 59 1.0	12.03	0 58.85	0.490	5 12 18.69
Sat.	10	5 15 28.30	10.357	23 3 37.7	+11.02	0 46.95	0.500	5 16 15.25
SUN.	11	5 19 36.98	10.366	23 7 50.1	10.01	0 34.83	0.510	5 20 11.81
Mon.	12	5 23 45.88	10.375	23 11 38.0	8.99	0 22.49	0.518	5 24 8.37
Tues.	13	5 27 54.97	10.382	23 15 1.4	+ 7.96	0 9.95	0.525	5 28 4.92
Wed.	14	5 32 4.21	10.388	23 18 0.2	6.94	0 2.73	0.531	5 32 1.48
Thur.	15	5 36 13.58	10.393	23 20 34.3	5.90	0 15.54	0.536	5 35 58.04
Frid.	16	5 40 23.05	10.396	23 22 43.6	+ 4.87	0 28.45	0.540	5 39 54.60
Sat.	17	5 44 32.60	10.399	23 24 28.2	3.84	0 41.44	0.542	5 43 51.16
SUN.	18	5 48 42.19	10.400	23 25 47.9	2.80	0 54.47	0.544	5 47 47.72
Mon.	19	5 52 51.81	10.401	23 26 42.8	+ 1.77	1 7.53	0.544	5 51 44.28
Tues.	20	5 57 1.42	10.400	23 27 12.9	+ 0.74	1 20.58	0.543	5 55 40.84
Wed.	21	6 1 11.00	10.398	23 27 18.2	- 0.30	1 33.60	0.541	5 59 37.40
Thur.	22	6 5 20.52	10.395	23 26 58.6	- 1.33	1 46.57	0.539	6 3 33.95
Frid.	23	6 9 29.97	10.392	23 26 14.2	2.36	1 59.46	0.535	6 7 30.51
Sat.	24	6 13 39.32	10.387	23 25 5.1	3.39	2 12.25	0.530	6 11 27.07
SUN.	25	6 17 48.54	10.381	23 23 31.3	- 4.43	2 24.91	0.525	6 15 23.63
Mon.	26	6 21 57.63	10.375	23 21 32.8	5.45	2 37.44	0.519	6 19 20.19
Tues.	27	6 26 6.55	10.368	23 19 9.8	6.47	2 49.80	0.511	6 23 16.75
Wed.	28	6 30 15.29	10.360	23 16 22.2	- 7.49	3 1.98	0.503	6 27 13.31
Thur.	29	6 34 23.83	10.351	23 13 10.2	8.51	3 13.96	0.495	6 31 9.87
Frid.	30	6 38 32.15	10.342	23 9 33.8	9.52	3 25.73	0.485	6 35 6.42
Sat.	31	6 42 40.24	10.332	N. 23 5 33.2	-10.53	3 37.26	0.475	6 39 2.98

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign + prefixed to the hourly change of declination indicates that north declinations are increasing; the sign - indicates that north declinations are decreasing.

Diff. for 1 Hour,
+ 9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	152	71° 9' 52.8	9 40.2	143.60	— 0.50	0.0062138	+26.2	^h 19 ^m 16 ^s 3.87
2	153	72 7 18.8	7 6.0	143.57	0.53	0.0062760	25.6	19 12 7.95
3	154	73 4 44.0	4 31.0	143.53	0.53	0.0063369	25.1	19 8 12.04
4	155	74 2 8.4	1 55.2	143.50	— 0.50	0.0063964	+24.5	19 4 16.13
5	156	74 59 32.2	59 18.8	143.48	0.44	0.0064544	23.7	19 0 20.21
6	157	75 56 55.4	56 41.8	143.46	0.36	0.0065107	23.1	18 56 24.30
7	158	76 54 18.1	54 4.3	143.43	— 0.25	0.0065652	+22.4	18 52 28.39
8	159	77 51 40.2	51 26.2	143.41	— 0.13	0.0066177	21.4	18 48 32.47
9	160	78 49 1.8	48 47.7	143.39	0.00	0.0066681	20.5	18 44 36.57
10	161	79 46 22.9	46 8.6	143.37	+ 0.14	0.0067163	+19.6	18 40 40.65
11	162	80 43 43.6	43 29.1	143.35	0.26	0.0067622	18.6	18 36 44.74
12	163	81 41 3.7	40 49.0	143.32	0.37	0.0068057	17.6	18 32 48.82
13	164	82 38 23.2	38 8.3	143.30	+ 0.47	0.0068466	+16.5	18 28 52.92
14	165	83 35 42.2	35 27.1	143.28	0.55	0.0068849	15.4	18 24 57.01
15	166	84 33 0.6	32 45.3	143.25	0.60	0.0069207	14.4	18 21 1.09
16	167	85 30 18.3	30 2.8	143.22	+ 0.62	0.0069540	+13.3	18 17 5.18
17	168	86 27 35.4	27 19.7	143.20	0.60	0.0069847	12.3	18 13 9.26
18	169	87 24 51.8	24 36.0	143.17	0.55	0.0070129	11.2	18 9 13.35
19	170	88 22 7.6	21 51.6	143.14	+ 0.49	0.0070387	+10.3	18 5 17.43
20	171	89 19 22.7	19 6.5	143.11	0.41	0.0070623	9.4	18 1 21.52
21	172	90 16 37.1	16 20.7	143.09	0.30	0.0070837	8.5	17 57 25.60
22	173	91 13 50.8	13 34.2	143.06	+ 0.16	0.0071031	+ 7.7	17 53 29.70
23	174	92 11 3.9	10 47.1	143.04	+ 0.05	0.0071206	6.9	17 49 33.79
24	175	93 8 16.5	7 59.5	143.01	— 0.08	0.0071363	6.2	17 45 37.87
25	176	94 5 28.6	5 11.4	142.99	— 0.20	0.0071503	+ 5.5	17 41 41.96
26	177	95 2 40.2	2 22.8	142.98	0.31	0.0071627	4.9	17 37 46.05
27	178	95 59 51.5	59 33.9	142.96	0.40	0.0071736	4.2	17 33 50.13
28	179	96 57 2.5	56 44.7	142.95	— 0.47	0.0071830	+ 3.6	17 29 54.22
29	180	97 54 13.3	53 55.3	142.95	0.51	0.0071910	3.0	17 25 58.30
30	181	98 51 24.1	51 5.9	142.95	0.52	0.0071975	2.2	17 22 2.40
31	182	99 48 34.8	48 16.4	142.95	— 0.49	0.0072026	+ 1.8	17 18 6.48
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 th .								
								Diff. for 1 Hour, — 9 ^h .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI-DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	
							h m	m	d
1	14' 47.4	14' 49.2	54' 10.0	+0.49	54' 16.5	+0.61	13 54.9	2.17	16.6
2	14 51.3	14 54.0	54 24.5	0.74	54 34.1	0.86	14 46.7	2.14	17.6
3	14 57.0	15 0.5	54 45.2	1.00	54 58.0	1.14	15 37.3	2.07	18.6
4	15 4.4	15 8.8	55 12.5	+1.28	55 28.7	+1.43	16 26.1	1.99	19.6
5	15 13.7	15 19.1	55 46.7	1.57	56 6.4	1.71	17 13.0	1.92	20.6
6	15 24.9	15 31.1	56 27.7	1.85	56 50.6	1.96	17 58.5	1.88	21.6
7	15 37.7	15 44.6	57 14.8	+2.06	57 40.1	+2.15	18 43.6	1.89	22.6
8	15 51.7	15 58.9	58 6.3	2.20	58 32.8	2.21	19 29.6	1.95	23.6
9	16 6.2	16 13.2	58 59.3	2.19	59 25.2	2.11	20 17.8	2.08	24.6
10	16 19.9	16 26.1	59 49.9	+1.98	60 12.7	+1.80	21 9.9	2.27	25.6
11	16 31.6	16 36.3	60 32.9	1.56	60 50.0	1.27	22 7.1	2.50	26.6
12	16 39.9	16 42.4	61 3.3	0.93	61 12.3	+0.52	23 9.7	2.71	27.6
13	16 43.6	16 43.4	61 16.7	+0.12	61 16.1	-0.25	♄		28.6
14	16 42.0	16 39.2	61 10.8	-0.65	61 0.6	1.04	0 16.3	2.81	0.3
15	16 35.2	16 30.1	60 46.0	1.39	60 27.4	1.69	1 23.5	2.76	1.3
16	16 24.2	16 17.5	60 5.5	-1.94	59 40.9	-2.14	2 27.6	2.57	2.3
17	16 10.2	16 2.4	59 14.2	2.31	58 46.3	2.36	3 26.2	2.32	3.3
18	15 54.8	15 47.1	58 17.7	2.35	57 49.2	2.32	4 18.9	2.08	4.3
19	15 39.4	15 32.1	57 21.1	-2.30	56 54.1	-2.20	5 6.4	1.89	5.3
20	15 25.1	15 18.5	56 28.4	2.08	56 4.4	1.92	5 50.2	1.77	6.3
21	15 12.6	15 7.1	55 42.4	1.75	55 22.4	1.57	6 31.8	1.71	7.3
22	15 2.3	14 58.1	55 4.7	-1.39	54 49.2	-1.20	7 12.7	1.70	8.3
23	14 54.4	14 51.4	54 35.9	1.02	54 24.9	0.83	7 53.9	1.74	9.3
24	14 49.0	14 47.2	54 16.0	0.65	54 9.3	0.46	8 36.5	1.82	10.3
25	14 45.9	14 45.1	54 4.5	-0.32	54 1.7	-0.16	9 21.4	1.92	11.3
26	14 44.8	14 45.0	54 0.6	-0.02	54 1.2	+0.12	10 8.9	2.03	12.3
27	14 45.6	14 46.6	54 3.4	+0.24	54 7.0	0.36	10 58.9	2.13	13.3
28	14 47.9	14 49.6	54 11.9	+0.46	54 18.1	+0.58	11 50.6	2.18	14.3
29	14 51.7	14 54.0	54 25.6	0.67	54 34.1	0.76	12 42.8	2.17	15.3
30	14 56.6	14 59.5	54 43.8	0.85	54 54.5	0.94	13 34.2	2.11	16.3
31	15 2.7	15 6.2	55 6.2	+1.02	55 19.0	+1.11	14 23.7	2.02	17.3

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 1.					SATURDAY 3.				
0	18 6 37.98	2.2491	S. 28° 2' 55.2"	0.847	0	19 54 22.42	2.2109	S. 26° 4' 51.3"	5.700
1	18 8 52.96	2.2509	28 3 41.9	0.709	1	19 56 35.00	2.2084	25 59 5.4	5.830
2	18 11 8.00	2.2511	28 4 20.3	0.571	2	19 58 47.43	2.2060	25 53 11.7	5.950
3	18 13 23.09	2.2519	28 4 50.4	0.433	3	20 0 59.72	2.2035	25 47 10.3	6.067
4	18 15 38.23	2.2528	28 5 12.2	0.295	4	20 3 11.85	2.2009	25 41 1.2	6.215
5	18 17 53.43	2.2536	28 5 25.8	0.157	5	20 5 23.82	2.1989	25 34 44.5	6.348
6	18 20 8.67	2.2543	28 5 31.1	- 0.019	6	20 7 35.63	2.1965	25 28 20.1	6.469
7	18 22 23.95	2.2549	28 5 28.1	+ 0.130	7	20 9 47.28	2.1938	25 21 48.2	6.586
8	18 24 39.26	2.2554	28 5 16.7	0.259	8	20 11 58.77	2.1901	25 15 8.7	6.721
9	18 26 54.60	2.2558	28 4 57.0	0.398	9	20 14 10.09	2.1873	25 8 21.7	6.846
10	18 29 9.96	2.2562	28 4 29.0	0.536	10	20 16 21.24	2.1844	25 1 27.2	6.970
11	18 31 25.34	2.2564	28 3 52.7	0.674	11	20 18 32.22	2.1816	24 54 25.3	7.093
12	18 33 40.73	2.2566	28 3 8.1	0.813	12	20 20 43.03	2.1787	24 47 16.0	7.216
13	18 35 56.13	2.2567	28 2 15.1	0.952	13	20 22 53.67	2.1758	24 39 59.3	7.339
14	18 38 11.53	2.2567	28 1 13.8	1.091	14	20 25 4.13	2.1728	24 32 35.3	7.462
15	18 40 26.93	2.2566	28 0 4.2	1.230	15	20 27 14.41	2.1698	24 25 3.9	7.583
16	18 42 42.32	2.2564	27 58 46.2	1.369	16	20 29 24.51	2.1668	24 17 25.3	7.703
17	18 44 57.70	2.2561	27 57 19.9	1.508	17	20 31 34.43	2.1638	24 9 39.5	7.823
18	18 47 13.05	2.2557	27 55 45.3	1.646	18	20 33 44.17	2.1608	24 1 46.6	7.942
19	18 49 28.38	2.2553	27 54 2.4	1.784	19	20 35 53.72	2.1577	23 53 46.5	8.061
20	18 51 43.69	2.2548	27 52 11.2	1.923	20	20 38 3.09	2.1547	23 45 39.3	8.179
21	18 53 58.96	2.2542	27 50 11.6	2.062	21	20 40 12.28	2.1516	23 37 25.0	8.297
22	18 56 14.19	2.2536	27 48 3.7	2.200	22	20 42 21.28	2.1484	23 29 3.7	8.413
23	18 58 29.39	2.2529	S. 27° 45' 47.6"	2.338	23	20 44 30.09	2.1453	S. 23° 20' 35.4"	8.529
FRIDAY 2.					SUNDAY 4.				
0	19 0 44.54	2.2521	S. 27° 43' 23.2"	2.476	0	20 46 38.72	2.1422	S. 23° 12' 0.2"	8.644
1	19 2 59.64	2.2519	27 40 50.5	2.614	1	20 48 47.16	2.1391	23 3 18.1	8.759
2	19 5 14.68	2.2501	27 38 9.5	2.752	2	20 50 55.41	2.1359	22 54 29.1	8.873
3	19 7 29.65	2.2490	27 35 20.3	2.889	3	20 53 3.47	2.1327	22 45 33.3	8.986
4	19 9 44.56	2.2479	27 32 22.9	3.026	4	20 55 11.34	2.1296	22 36 30.8	9.099
5	19 11 59.40	2.2467	27 29 17.2	3.163	5	20 57 19.02	2.1264	22 27 21.5	9.211
6	19 14 14.16	2.2454	27 26 3.3	3.300	6	20 59 26.51	2.1233	22 18 5.5	9.322
7	19 16 28.84	2.2440	27 22 41.2	3.437	7	21 1 33.81	2.1201	22 8 42.9	9.432
8	19 18 43.44	2.2426	27 19 10.9	3.573	8	21 3 40.92	2.1170	21 59 13.7	9.543
9	19 20 57.96	2.2412	27 15 32.5	3.708	9	21 5 47.85	2.1139	21 49 37.9	9.651
10	19 23 12.38	2.2396	27 11 46.0	3.843	10	21 7 54.59	2.1107	21 39 55.6	9.758
11	19 25 26.71	2.2380	27 7 51.3	3.979	11	21 10 1.14	2.1076	21 30 6.9	9.865
12	19 27 40.94	2.2362	27 3 48.5	4.114	12	21 12 7.50	2.1044	21 20 11.8	9.972
13	19 29 55.06	2.2344	26 59 37.6	4.248	13	21 14 13.67	2.1013	21 10 10.3	10.078
14	19 32 9.07	2.2326	26 55 18.7	4.383	14	21 16 19.66	2.0982	21 0 2.5	10.183
15	19 34 22.97	2.2307	26 50 51.7	4.517	15	21 18 25.46	2.0952	20 49 48.4	10.288
16	19 36 36.76	2.2287	26 46 16.7	4.650	16	21 20 31.08	2.0921	20 39 28.0	10.391
17	19 38 50.42	2.2267	26 41 33.7	4.783	17	21 22 36.51	2.0890	20 29 1.5	10.494
18	19 41 3.96	2.2247	26 36 42.8	4.915	18	21 24 41.76	2.0860	20 18 28.8	10.596
19	19 43 17.38	2.2225	26 31 43.9	5.047	19	21 26 46.83	2.0830	20 7 50.0	10.697
20	19 45 30.66	2.2203	26 26 37.1	5.179	20	21 28 51.72	2.0800	19 57 5.2	10.797
21	19 47 43.81	2.2180	26 21 22.4	5.311	21	21 30 56.43	2.0770	19 46 14.3	10.897
22	19 49 56.82	2.2157	26 15 59.8	5.442	22	21 33 0.96	2.0740	19 35 17.5	10.996
23	19 52 9.69	2.2133	26 10 29.4	5.571	23	21 35 5.31	2.0711	19 24 14.8	11.094
24	19 54 22.42	2.2109	S. 26° 4' 51.3"	5.700	24	21 37 9.49	2.0682	S. 19° 13' 6.2"	11.192

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 5.					WEDNESDAY 7.				
0	^h 21 ^m 37 ^s 9.49	2.0699	S. 19° 13' 6.2"	11.192	0	^h 23 ^m 13 ^s 54.10	1.9842	S. 8° 39' 14.4"	14.894
1	21 39 13.50	2.0654	19 1 51.8	11.368	1	23 15 53.14	1.9840	8 24 19.1	14.950
2	21 41 17.34	2.0605	18 50 31.6	11.384	2	23 17 52.18	1.9839	8 9 20.4	15.005
3	21 43 21.00	2.0597	18 39 5.7	11.479	3	23 19 51.21	1.9838	7 54 18.5	15.059
4	21 45 24.50	2.0569	18 27 34.1	11.573	4	23 21 50.24	1.9839	7 39 13.4	15.112
5	21 47 27.83	2.0549	18 15 56.9	11.666	5	23 23 49.28	1.9841	7 24 5.1	15.164
6	21 49 31.00	2.0515	18 4 14.2	11.759	6	23 25 48.33	1.9843	7 8 53.7	15.215
7	21 51 34.01	2.0488	17 52 25.9	11.851	7	23 27 47.39	1.9845	6 53 39.3	15.265
8	21 53 36.86	2.0461	17 40 32.1	11.942	8	23 29 46.47	1.9848	6 38 21.9	15.314
9	21 55 39.55	2.0435	17 28 32.9	12.032	9	23 31 45.57	1.9852	6 23 1.6	15.362
10	21 57 42.08	2.0410	17 16 28.3	12.121	10	23 33 44.70	1.9858	6 7 38.4	15.409
11	21 59 44.47	2.0386	17 4 18.4	12.210	11	23 35 43.87	1.9865	5 52 12.5	15.454
12	22 1 46.71	2.0361	16 52 3.1	12.298	12	23 37 43.08	1.9872	5 36 43.9	15.499
13	22 3 48.80	2.0337	16 39 42.6	12.385	13	23 39 42.33	1.9879	5 21 12.6	15.544
14	22 5 50.75	2.0312	16 27 16.9	12.471	14	23 41 41.63	1.9888	5 5 38.6	15.587
15	22 7 52.55	2.0288	16 14 46.1	12.556	15	23 43 40.99	1.9898	4 50 2.1	15.629
16	22 9 54.21	2.0266	16 2 10.2	12.640	16	23 45 40.41	1.9908	4 34 23.1	15.670
17	22 11 55.74	2.0243	15 49 29.3	12.724	17	23 47 39.89	1.9918	4 18 41.7	15.710
18	22 13 57.13	2.0221	15 36 43.3	12.807	18	23 49 39.43	1.9930	4 2 57.9	15.749
19	22 15 58.39	2.0200	15 23 52.4	12.889	19	23 51 39.05	1.9943	3 47 11.8	15.787
20	22 17 59.53	2.0179	15 10 56.6	12.970	20	23 53 38.75	1.9957	3 31 23.4	15.824
21	22 20 0.54	2.0158	14 57 56.0	13.050	21	23 55 38.54	1.9972	3 15 32.9	15.859
22	22 22 1.43	2.0139	14 44 50.6	13.130	22	23 57 38.42	1.9988	2 59 40.3	15.894
23	22 24 2.21	2.0120	S. 14° 31' 40.4"	13.209	23	23 59 38.40	2.0005	S. 2° 43' 45.6"	15.927
TUESDAY 6.					THURSDAY 8.				
0	22 26 2.87	2.0101	S. 14° 18' 25.5"	13.287	0	0 1 38.48	2.0022	S. 2° 27' 49.0"	15.959
1	22 28 3.42	2.0083	14 5 6.0	13.363	1	0 3 38.66	2.0040	2 11 50.5	15.991
2	22 30 3.86	2.0065	13 51 41.9	13.439	2	0 5 38.96	2.0060	1 55 50.1	16.022
3	22 32 4.20	2.0048	13 38 13.3	13.514	3	0 7 39.38	2.0080	1 39 47.9	16.051
4	22 34 4.44	2.0032	13 24 40.2	13.589	4	0 9 39.92	2.0101	1 23 44.0	16.078
5	22 36 4.58	2.0016	13 11 2.6	13.663	5	0 11 40.59	2.0122	1 7 38.5	16.104
6	22 38 4.63	2.0001	12 57 20.6	13.736	6	0 13 41.40	2.0146	0 51 31.5	16.129
7	22 40 4.59	1.9987	12 43 34.3	13.807	7	0 15 42.35	2.0170	0 35 23.0	16.154
8	22 42 4.47	1.9973	12 29 43.7	13.878	8	0 17 43.44	2.0194	0 19 13.0	16.178
9	22 44 4.26	1.9958	12 15 48.9	13.948	9	0 19 44.68	2.0220	S. 0° 3' 1.6"	16.200
10	22 46 3.97	1.9946	12 1 49.9	14.018	10	0 21 46.08	2.0248	N. 0° 13' 11.0"	16.220
11	22 48 3.61	1.9935	11 47 46.7	14.086	11	0 23 47.65	2.0276	0 29 24.8	16.240
12	22 50 3.19	1.9924	11 33 39.5	14.153	12	0 25 49.39	2.0304	0 45 39.8	16.258
13	22 52 2.70	1.9913	11 19 28.3	14.220	13	0 27 51.30	2.0333	1 1 55.8	16.275
14	22 54 2.15	1.9902	11 5 13.1	14.287	14	0 29 53.39	2.0363	1 18 12.8	16.291
15	22 56 1.53	1.9892	10 50 53.9	14.352	15	0 31 55.66	2.0394	1 34 30.7	16.306
16	22 58 0.86	1.9884	10 36 30.9	14.415	16	0 33 58.12	2.0427	1 50 49.5	16.318
17	23 0 0.14	1.9877	10 22 4.1	14.478	17	0 36 0.78	2.0461	2 7 8.9	16.328
18	23 1 59.38	1.9870	10 7 33.6	14.540	18	0 38 3.65	2.0496	2 23 28.9	16.338
19	23 3 58.58	1.9863	9 52 59.3	14.602	19	0 40 6.73	2.0531	2 39 49.5	16.348
20	23 5 57.74	1.9857	9 38 21.4	14.663	20	0 42 10.02	2.0567	2 56 10.7	16.357
21	23 7 56.86	1.9852	9 23 39.9	14.722	21	0 44 13.53	2.0604	3 12 32.3	16.363
22	23 9 55.96	1.9848	9 8 54.8	14.780	22	0 46 17.27	2.0642	3 28 54.2	16.368
23	23 11 55.04	1.9845	8 54 6.3	14.837	23	0 48 21.24	2.0682	3 45 16.4	16.372
24	23 13 54.10	1.9843	S. 8° 39' 14.4"	14.894	24	0 50 25.45	2.0722	N. 4° 1' 38.8"	16.374

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 9.					SUNDAY 11.				
0	^h 0 ^m 50 ^s 25.45	2.0792	N. 4° 1' 38.8"	16.374	0	^h 2 ^m 36 ^s 20.06	2.3744	N. 16° 38' 41.9"	14.454
1	0 52 29.90	2.0764	4 18 1.3	16.374	1	2 38 42.77	2.3697	16 53 6.5	14.365
2	0 54 34.61	2.0806	4 34 23.7	16.379	2	2 41 5.98	2.3609	17 7 25.7	14.273
3	0 56 39.57	2.0848	4 50 46.0	16.370	3	2 43 29.68	2.3609	17 21 39.3	14.179
4	0 58 44.79	2.0892	5 7 8.1	16.367	4	2 45 53.88	2.4075	17 35 47.2	14.083
5	1 0 50.28	2.0937	5 23 30.0	16.362	5	2 48 18.58	2.4150	17 49 49.3	13.985
6	1 2 56.04	2.0983	5 39 51.5	16.355	6	2 50 43.79	2.4944	18 3 45.4	13.894
7	1 5 2.08	2.1031	5 56 12.6	16.347	7	2 53 9.51	2.4390	18 17 35.4	13.781
8	1 7 8.41	2.1079	6 12 33.1	16.336	8	2 55 35.74	2.4413	18 31 19.1	13.675
9	1 9 15.03	2.1198	6 28 52.9	16.324	9	2 58 2.47	2.4498	18 44 56.4	13.567
10	1 11 21.95	2.1178	6 45 12.0	16.319	10	3 0 29.72	2.4584	18 58 27.2	13.457
11	1 13 29.17	2.1298	7 1 30.3	16.307	11	3 2 57.48	2.4670	19 11 51.3	13.345
12	1 15 36.69	2.1280	7 17 47.6	16.290	12	3 5 25.76	2.4756	19 25 8.6	13.231
13	1 17 44.53	2.1334	7 34 3.9	16.282	13	3 7 54.56	2.4849	19 38 19.0	13.113
14	1 19 52.70	2.1388	7 50 19.1	16.263	14	3 10 23.87	2.4938	19 51 22.2	12.993
15	1 22 1.19	2.1443	8 6 33.1	16.252	15	3 12 53.70	2.5015	20 4 18.2	12.871
16	1 24 10.01	2.1498	8 22 45.7	16.198	16	3 15 24.05	2.5101	20 17 6.8	12.747
17	1 26 19.17	2.1555	8 38 56.9	16.173	17	3 17 54.91	2.5187	20 29 47.8	12.620
18	1 28 28.67	2.1613	8 55 6.5	16.147	18	3 20 26.29	2.5273	20 42 21.2	12.499
19	1 30 38.52	2.1679	9 11 14.5	16.118	19	3 22 58.19	2.5360	20 54 46.8	12.380
20	1 32 48.73	2.1739	9 27 20.7	16.086	20	3 25 30.61	2.5446	21 7 4.4	12.266
21	1 34 59.30	2.1799	9 43 25.1	16.057	21	3 28 3.54	2.5532	21 19 13.9	12.090
22	1 37 10.23	2.1854	9 59 27.5	16.023	22	3 30 36.99	2.5618	21 31 15.2	11.958
23	1 39 21.54	2.1916	N. 10° 15' 27.9"	15.988	23	3 33 10.95	2.5703	N. 21° 43' 8.1"	11.816
SATURDAY 10.					MONDAY 12.				
0	1 41 33.22	2.1978	N. 10° 31' 26.1"	15.951	0	3 35 45.42	2.5788	N. 21° 54' 52.4"	11.667
1	1 43 45.28	2.2042	10 47 22.0	15.912	1	3 38 20.40	2.5873	22 6 28.1	11.521
2	1 45 57.73	2.2108	11 3 15.5	15.870	2	3 40 55.89	2.5958	22 17 55.0	11.373
3	1 48 10.58	2.2175	11 19 6.4	15.827	3	3 43 31.89	2.6043	22 29 12.9	11.223
4	1 50 23.83	2.2242	11 34 54.7	15.782	4	3 46 8.39	2.6124	22 40 21.7	11.070
5	1 52 37.48	2.2309	11 50 40.3	15.736	5	3 48 45.38	2.6207	22 51 21.3	10.916
6	1 54 51.54	2.2377	12 6 23.0	15.688	6	3 51 22.87	2.6289	23 2 11.6	10.758
7	1 57 6.01	2.2447	12 22 2.8	15.637	7	3 54 0.85	2.6371	23 12 52.3	10.598
8	1 59 20.91	2.2516	12 37 39.4	15.583	8	3 56 39.32	2.6452	23 23 23.4	10.437
9	2 1 36.23	2.2589	12 53 12.8	15.528	9	3 59 18.28	2.6533	23 33 44.8	10.273
10	2 3 51.98	2.2661	13 8 42.8	15.472	10	4 1 57.72	2.6612	23 43 56.2	10.107
11	2 6 8.16	2.2733	13 24 9.4	15.413	11	4 4 37.63	2.6690	23 53 57.6	9.939
12	2 8 24.78	2.2807	13 39 32.4	15.352	12	4 7 18.00	2.6768	24 3 48.9	9.768
13	2 10 41.85	2.2881	13 54 51.7	15.289	13	4 9 58.84	2.6845	24 13 29.8	9.595
14	2 12 59.36	2.2956	14 10 7.1	15.224	14	4 12 40.14	2.6921	24 23 0.3	9.421
15	2 15 17.32	2.3032	14 25 18.6	15.157	15	4 15 21.89	2.6996	24 32 20.3	9.244
16	2 17 35.74	2.3109	14 40 26.0	15.087	16	4 18 4.09	2.7070	24 41 29.6	9.065
17	2 19 54.63	2.3187	14 55 29.1	15.016	17	4 20 46.72	2.7141	24 50 28.1	8.894
18	2 22 13.98	2.3264	15 10 27.9	14.943	18	4 23 29.78	2.7212	24 59 15.7	8.722
19	2 24 33.80	2.3342	15 25 22.2	14.867	19	4 26 13.26	2.7282	25 7 52.3	8.547
20	2 26 54.09	2.3422	15 40 11.9	14.789	20	4 28 57.16	2.7351	25 16 17.7	8.369
21	2 29 14.86	2.3502	15 54 56.9	14.709	21	4 31 41.47	2.7418	25 24 31.8	8.141
22	2 31 36.11	2.3582	16 9 37.0	14.626	22	4 34 26.18	2.7484	25 32 34.6	7.951
23	2 33 57.84	2.3662	16 24 12.0	14.541	23	4 37 11.28	2.7547	25 40 25.9	7.756
24	2 36 20.06	2.3744	N. 16° 38' 41.9"	14.454	24	4 39 56.75	2.7609	N. 25° 48' 5.5"	7.563

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 13.					THURSDAY 15.				
0	^h 4 ^m 39 ^s 56.75	2.7609	N.25° 48' 5.5"	7.563	0	^h 6 ^m 55 ^s 48.19	2.8102	N.27° 46' 32.1"	2.762
1	4 42 42.59	2.7671	25 55 33.4	7.368	1	6 58 36.66	2.8054	27 43 40.0	2.973
2	4 45 28.80	2.7731	26 2 49.6	7.171	2	7 1 24.84	2.8004	27 40 35.3	3.182
3	4 48 15.36	2.7788	26 9 53.9	6.973	3	7 4 12.71	2.7952	27 37 18.1	3.391
4	4 51 2.26	2.7844	26 16 46.2	6.771	4	7 7 0.26	2.7898	27 33 48.4	3.598
5	4 53 49.49	2.7898	26 23 26.4	6.568	5	7 9 47.49	2.7843	27 30 6.3	3.803
6	4 56 37.04	2.7951	26 29 54.4	6.364	6	7 12 34.38	2.7786	27 26 12.0	4.007
7	4 59 24.90	2.8001	26 36 10.1	6.159	7	7 15 20.92	2.7726	27 22 5.5	4.210
8	5 2 13.05	2.8049	26 42 13.5	5.952	8	7 18 7.09	2.7664	27 17 46.8	4.419
9	5 5 1.49	2.8096	26 48 4.4	5.744	9	7 20 52.89	2.7601	27 13 16.1	4.611
10	5 7 50.20	2.8141	26 53 42.8	5.535	10	7 23 38.30	2.7536	27 8 33.5	4.808
11	5 10 39.18	2.8184	26 59 8.6	5.324	11	7 26 23.32	2.7469	27 3 39.1	5.004
12	5 13 28.41	2.8224	27 4 21.7	5.112	12	7 29 7.93	2.7400	26 58 33.0	5.199
13	5 16 17.87	2.8262	27 9 22.1	4.900	13	7 31 52.12	2.7330	26 53 15.2	5.392
14	5 19 7.55	2.8298	27 14 9.7	4.686	14	7 34 35.89	2.7259	26 47 45.9	5.583
15	5 21 57.45	2.8332	27 18 44.4	4.470	15	7 37 19.23	2.7187	26 42 5.2	5.773
16	5 24 47.54	2.8363	27 23 6.1	4.254	16	7 40 2.13	2.7112	26 36 13.2	5.961
17	5 27 37.81	2.8393	27 27 14.9	4.038	17	7 42 44.57	2.7035	26 30 9.9	6.148
18	5 30 28.26	2.8421	27 31 10.7	3.821	18	7 45 26.55	2.6957	26 23 55.5	6.332
19	5 33 18.86	2.8445	27 34 53.4	3.602	19	7 48 8.06	2.6879	26 17 30.1	6.513
20	5 36 9.60	2.8467	27 38 22.9	3.383	20	7 50 49.10	2.6799	26 10 53.9	6.693
21	5 39 0.47	2.8487	27 41 39.3	3.163	21	7 53 29.65	2.6718	26 4 7.0	6.871
22	5 41 51.45	2.8505	27 44 42.5	2.942	22	7 56 9.71	2.6636	25 57 9.4	7.047
23	5 44 42.53	2.8520	N.27 47 32.5	2.722	23	7 58 49.28	2.6552	N.25 50 1.3	7.221
WEDNESDAY 14.					FRIDAY 16.				
0	5 47 33.69	2.8539	N.27 50 9.2	2.501	0	8 1 28.34	2.6467	N.25 42 42.9	7.399
1	5 50 24.92	2.8549	27 52 32.6	2.279	1	8 4 6.89	2.6389	25 35 14.2	7.583
2	5 53 16.20	2.8551	27 54 42.7	2.058	2	8 6 44.92	2.6305	25 27 35.3	7.739
3	5 56 7.53	2.8557	27 56 39.6	1.836	3	8 9 22.43	2.6207	25 19 46.4	7.898
4	5 58 58.88	2.8559	27 58 23.1	1.614	4	8 11 59.41	2.6119	25 11 47.6	8.061
5	6 1 50.24	2.8560	27 59 53.3	1.392	5	8 14 35.86	2.6030	25 3 39.1	8.222
6	6 4 41.60	2.8557	28 1 10.1	1.169	6	8 17 11.77	2.5940	24 55 20.9	8.389
7	6 7 32.93	2.8552	28 2 13.6	0.947	7	8 19 47.14	2.5849	24 46 53.2	8.540
8	6 10 24.23	2.8546	28 3 3.8	0.726	8	8 22 21.96	2.5758	24 38 16.1	8.695
9	6 13 15.48	2.8537	28 3 40.7	0.504	9	8 24 56.24	2.5666	24 29 29.8	8.848
10	6 16 6.67	2.8524	28 4 4.2	0.282	10	8 27 29.96	2.5574	24 20 34.3	8.999
11	6 18 57.77	2.8509	28 4 14.5	+ 0.061	11	8 30 3.13	2.5481	24 11 29.9	9.147
12	6 21 48.78	2.8492	28 4 11.5	- 0.180	12	8 32 35.74	2.5388	24 2 16.6	9.294
13	6 24 39.68	2.8472	28 3 55.3	0.381	13	8 35 7.79	2.5295	23 52 54.6	9.438
14	6 27 30.45	2.8451	28 3 25.8	0.602	14	8 37 39.28	2.5201	23 43 24.0	9.581
15	6 30 21.09	2.8427	28 2 43.1	0.822	15	8 40 10.20	2.5106	23 33 44.9	9.721
16	6 33 11.57	2.8399	28 1 47.2	1.041	16	8 42 40.55	2.5012	23 23 57.5	9.859
17	6 36 1.88	2.8370	28 0 38.2	1.258	17	8 45 10.34	2.4917	23 14 1.9	9.995
18	6 38 52.01	2.8339	27 59 16.2	1.475	18	8 47 39.56	2.4822	23 3 58.2	10.128
19	6 41 41.95	2.8305	27 57 41.2	1.692	19	8 50 8.21	2.4727	22 53 46.5	10.259
20	6 44 31.67	2.8268	27 55 53.1	1.909	20	8 52 36.29	2.4632	22 43 27.1	10.387
21	6 47 21.17	2.8230	27 53 52.1	2.124	21	8 55 3.79	2.4536	22 33 0.0	10.514
22	6 50 10.43	2.8189	27 51 38.2	2.338	22	8 57 30.72	2.4443	22 22 25.4	10.639
23	6 52 59.44	2.8147	27 49 11.5	2.551	23	8 59 57.09	2.4347	22 11 43.3	10.769
24	6 55 48.19	2.8102	N.27 46 32.1	2.762	24	9 2 22.89	2.4252	N.22 0 53.9	10.892

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 17.					MONDAY 19.				
0	9 2 22.89	2.4352	N. 22° 0' 53.9"	10.889	0	10 48 40.27	2.0309	N. 11° 37' 51.8"	14.389
1	9 4 48.11	2.4157	21 49 57.4	11.000	1	10 50 41.89	2.0239	11 23 27.4	14.492
2	9 7 12.77	2.4062	21 38 53.9	11.117	2	10 52 43.14	2.0177	11 9 1.2	14.452
3	9 9 36.86	2.3967	21 27 43.4	11.231	3	10 54 44.02	2.0117	10 54 33.2	14.482
4	9 12 0.38	2.3879	21 16 26.2	11.349	4	10 56 44.54	2.0057	10 40 3.4	14.512
5	9 14 23.33	2.3777	21 5 2.4	11.459	5	10 58 44.71	1.9998	10 25 31.8	14.540
6	9 16 45.72	2.3684	20 53 32.0	11.560	6	11 0 44.52	1.9940	10 10 58.6	14.566
7	9 19 7.54	2.3591	20 41 55.2	11.665	7	11 2 43.99	1.9883	9 56 23.9	14.591
8	9 21 28.81	2.3498	20 30 12.2	11.768	8	11 4 43.12	1.9827	9 41 47.7	14.614
9	9 23 49.52	2.3405	20 18 23.0	11.870	9	11 6 41.92	1.9772	9 27 10.2	14.636
10	9 26 9.67	2.3313	20 6 27.8	11.969	10	11 8 40.39	1.9718	9 12 31.4	14.657
11	9 28 29.27	2.3221	19 54 26.7	12.066	11	11 10 38.54	1.9665	8 57 51.3	14.678
12	9 30 48.32	2.3129	19 42 19.9	12.161	12	11 12 36.37	1.9613	8 43 10.0	14.697
13	9 33 6.82	2.3038	19 30 7.4	12.254	13	11 14 33.89	1.9560	8 28 27.6	14.715
14	9 35 24.78	2.2947	19 17 49.4	12.346	14	11 16 31.11	1.9512	8 13 44.2	14.731
15	9 37 42.19	2.2857	19 5 25.9	12.436	15	11 18 28.03	1.9469	7 58 59.9	14.746
16	9 39 59.06	2.2768	18 52 57.1	12.523	16	11 20 24.65	1.9414	7 44 14.7	14.761
17	9 42 15.40	2.2679	18 40 23.2	12.608	17	11 22 20.99	1.9367	7 29 28.6	14.775
18	9 44 31.21	2.2591	18 27 44.2	12.691	18	11 24 17.05	1.9320	7 14 41.7	14.787
19	9 46 46.49	2.2503	18 15 0.3	12.773	19	11 26 12.83	1.9274	6 59 54.1	14.798
20	9 49 1.25	2.2416	18 2 11.5	12.853	20	11 28 8.34	1.9230	6 45 5.9	14.807
21	9 51 15.49	2.2330	17 49 18.0	12.931	21	11 30 3.59	1.9187	6 30 17.2	14.816
22	9 53 29.21	2.2244	17 36 19.8	13.007	22	11 31 58.58	1.9144	6 15 28.0	14.824
23	9 55 42.42	2.2160	N. 17° 23' 17.2"	13.079	23	11 33 53.32	1.9103	N. 6° 0' 38.3"	14.832
SUNDAY 18.					TUESDAY 20.				
0	9 57 55.13	2.2076	N. 17° 10' 10.3"	13.151	0	11 35 47.81	1.9062	N. 5° 45' 48.2"	14.838
1	10 0 7.33	2.1992	16 56 59.1	13.222	1	11 37 42.06	1.9022	5 30 57.8	14.842
2	10 2 19.03	2.1909	16 43 43.6	13.292	2	11 39 36.07	1.8982	5 16 7.1	14.846
3	10 4 30.24	2.1826	16 30 24.0	13.359	3	11 41 29.85	1.8944	5 1 16.3	14.849
4	10 6 40.96	2.1747	16 17 0.5	13.423	4	11 43 23.40	1.8906	4 46 25.3	14.851
5	10 8 51.20	2.1666	16 3 33.2	13.487	5	11 45 16.74	1.8872	4 31 34.2	14.852
6	10 11 0.95	2.1585	15 50 2.1	13.548	6	11 47 9.86	1.8836	4 16 43.0	14.852
7	10 13 10.22	2.1507	15 36 27.4	13.606	7	11 49 2.77	1.8802	4 1 51.9	14.851
8	10 15 19.03	2.1430	15 22 49.1	13.667	8	11 50 55.48	1.8768	3 47 0.9	14.849
9	10 17 27.38	2.1353	15 9 7.3	13.724	9	11 52 47.99	1.8736	3 32 10.0	14.847
10	10 19 35.27	2.1276	14 55 22.2	13.778	10	11 54 40.31	1.8705	3 17 19.3	14.843
11	10 21 42.70	2.1200	14 41 33.9	13.832	11	11 56 32.45	1.8675	3 2 28.8	14.838
12	10 23 49.67	2.1125	14 27 42.4	13.884	12	11 58 24.41	1.8645	2 47 38.7	14.833
13	10 25 56.20	2.1052	14 13 47.8	13.934	13	12 0 16.19	1.8616	2 32 48.9	14.827
14	10 28 2.30	2.0980	13 59 50.3	13.982	14	12 2 7.80	1.8588	2 17 59.5	14.819
15	10 30 7.96	2.0908	13 45 50.0	14.029	15	12 3 59.25	1.8561	2 3 10.6	14.811
16	10 32 13.19	2.0837	13 31 46.9	14.075	16	12 5 50.54	1.8535	1 48 22.2	14.802
17	10 34 18.00	2.0767	13 17 41.0	14.120	17	12 7 41.67	1.8509	1 33 34.3	14.793
18	10 36 22.39	2.0697	13 3 32.5	14.169	18	12 9 32.65	1.8485	1 18 47.0	14.782
19	10 38 26.37	2.0629	12 49 21.5	14.203	19	12 11 23.49	1.8462	1 4 0.4	14.771
20	10 40 29.94	2.0562	12 35 8.1	14.243	20	12 13 14.20	1.8440	0 49 14.5	14.758
21	10 42 33.11	2.0495	12 20 52.2	14.282	21	12 15 4.77	1.8418	0 34 29.4	14.745
22	10 44 35.88	2.0430	12 6 34.3	14.318	22	12 16 55.21	1.8397	0 19 45.1	14.732
23	10 46 38.27	2.0365	11 52 14.1	14.354	23	12 18 45.53	1.8377	N. 0° 5' 1.6"	14.717
24	10 48 40.27	2.0302	N. 11° 37' 51.8"	14.389	24	12 20 35.74	1.8359	S. 0° 9' 41.0"	14.702

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 21.					FRIDAY 23.				
0	12 20 35.74	1.8359	S. 0° 9' 41.0"	14.709	0	13 48 5.05	1.8389	S. 11° 23' 27.1"	13.100
1	12 22 25.84	1.8341	0 24 22.6	14.685	1	13 49 55.44	1.8407	11 36 31.6	13.049
2	12 24 15.83	1.8323	0 39 3.2	14.668	2	13 51 45.95	1.8427	11 49 33.0	12.998
3	12 26 5.71	1.8306	0 53 42.8	14.651	3	13 53 36.57	1.8447	12 2 31.3	12.946
4	12 27 55.50	1.8291	1 8 21.3	14.632	4	13 55 27.31	1.8467	12 15 26.5	12.893
5	12 29 45.20	1.8277	1 22 58.6	14.612	5	13 57 18.18	1.8489	12 28 18.5	12.840
6	12 31 34.82	1.8263	1 37 34.7	14.592	6	13 59 9.18	1.8511	12 41 7.3	12.786
7	12 33 24.36	1.8250	1 52 9.6	14.571	7	14 1 0.31	1.8533	12 53 52.8	12.731
8	12 35 13.82	1.8237	2 6 43.2	14.550	8	14 2 51.58	1.8556	13 6 35.0	12.676
9	12 37 3.20	1.8225	2 21 15.6	14.528	9	14 4 42.98	1.8579	13 19 13.9	12.620
10	12 38 52.52	1.8215	2 35 46.6	14.504	10	14 6 34.52	1.8603	13 31 49.4	12.563
11	12 40 41.78	1.8206	2 50 16.1	14.480	11	14 8 26.21	1.8628	13 44 21.4	12.504
12	12 42 30.99	1.8197	3 4 44.2	14.456	12	14 10 18.06	1.8654	13 56 49.9	12.446
13	12 44 20.15	1.8189	3 19 10.8	14.430	13	14 12 10.06	1.8679	14 9 14.9	12.387
14	12 46 9.26	1.8182	3 33 35.8	14.404	14	14 14 2.21	1.8705	14 21 36.3	12.327
15	12 47 58.33	1.8175	3 47 59.3	14.377	15	14 15 54.52	1.8732	14 33 54.1	12.267
16	12 49 47.36	1.8169	4 2 21.1	14.349	16	14 17 47.00	1.8760	14 46 8.3	12.205
17	12 51 36.36	1.8165	4 16 41.2	14.322	17	14 19 39.64	1.8788	14 58 18.7	12.143
18	12 53 25.34	1.8162	4 30 59.7	14.293	18	14 21 32.45	1.8817	15 10 25.4	12.080
19	12 55 14.30	1.8158	4 45 16.4	14.263	19	14 23 25.44	1.8847	15 22 28.3	12.016
20	12 57 3.24	1.8155	4 59 31.3	14.233	20	14 25 18.61	1.8876	15 34 27.3	11.952
21	12 58 52.16	1.8153	5 13 44.3	14.202	21	14 27 11.95	1.8906	15 46 22.5	11.887
22	13 0 41.08	1.8152	5 27 55.5	14.170	22	14 29 5.48	1.8937	15 58 13.7	11.820
23	13 2 29.99	1.8152	S. 5 42 4.7	14.138	23	14 30 59.19	1.8968	S. 16 10 0.9	11.754
THURSDAY 22.					SATURDAY 24.				
0	13 4 18.90	1.8152	S. 5 56 12.0	14.105	0	14 32 53.09	1.8999	S. 16 21 44.2	11.687
1	13 6 7.82	1.8154	6 10 17.3	14.071	1	14 34 47.18	1.9032	16 33 23.4	11.618
2	13 7 56.75	1.8157	6 24 20.5	14.036	2	14 36 41.47	1.9065	16 44 58.4	11.549
3	13 9 45.70	1.8160	6 38 21.6	14.001	3	14 38 35.96	1.9098	16 56 29.3	11.480
4	13 11 34.67	1.8164	6 52 20.6	13.965	4	14 40 30.65	1.9131	17 7 56.0	11.409
5	13 13 23.67	1.8168	7 6 17.4	13.927	5	14 42 25.54	1.9165	17 19 18.4	11.338
6	13 15 12.69	1.8174	7 20 11.9	13.889	6	14 44 20.63	1.9199	17 30 36.5	11.266
7	13 17 1.75	1.8180	7 34 4.1	13.852	7	14 46 15.93	1.9235	17 41 50.3	11.193
8	13 18 50.85	1.8186	7 47 54.1	13.814	8	14 48 11.45	1.9271	17 52 59.7	11.119
9	13 20 39.98	1.8193	8 1 41.8	13.775	9	14 50 7.18	1.9307	18 4 4.6	11.045
10	13 22 29.16	1.8202	8 15 27.1	13.734	10	14 52 3.13	1.9343	18 15 5.1	10.970
11	13 24 18.40	1.8211	8 29 9.9	13.693	11	14 53 59.29	1.9378	18 26 1.0	10.894
12	13 26 7.69	1.8222	8 42 50.3	13.652	12	14 55 55.67	1.9415	18 36 52.4	10.817
13	13 27 57.04	1.8231	8 56 28.2	13.610	13	14 57 52.27	1.9453	18 47 39.1	10.739
14	13 29 46.46	1.8242	9 10 3.5	13.567	14	14 59 49.10	1.9491	18 58 21.1	10.662
15	13 31 35.94	1.8254	9 23 36.2	13.523	15	15 1 46.16	1.9529	19 8 58.5	10.583
16	13 33 25.50	1.8266	9 37 6.3	13.479	16	15 3 43.45	1.9567	19 19 31.1	10.502
17	13 35 15.13	1.8278	9 50 33.7	13.434	17	15 5 40.97	1.9606	19 29 58.8	10.421
18	13 37 4.84	1.8292	10 3 58.4	13.388	18	15 7 38.72	1.9645	19 40 21.6	10.339
19	13 38 54.64	1.8307	10 17 20.3	13.342	19	15 9 36.71	1.9684	19 50 39.5	10.257
20	13 40 44.53	1.8322	10 30 39.4	13.295	20	15 11 34.93	1.9723	20 0 52.4	10.174
21	13 42 34.51	1.8338	10 43 55.7	13.247	21	15 13 33.39	1.9763	20 11 0.4	10.091
22	13 44 24.59	1.8355	10 57 9.1	13.199	22	15 15 32.09	1.9804	20 21 3.3	10.005
23	13 46 14.77	1.8372	11 10 19.6	13.150	23	15 17 31.04	1.9845	20 31 1.0	9.919
24	13 48 5.05	1.8389	S. 11 23 27.1	13.100	24	15 19 30.23	1.9885	S. 20 40 53.6	9.832

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 25.					TUESDAY 27.				
0	h m s	s	S. 20° 40' 53.6"	9.833	0	h m s	s	S. 26° 37' 41.4"	4.798
1	15 19 30.23	1.9985	20 50 41.0	9.746	1	17 1 57.22	2.1843	26 42 21.4	4.693
2	15 21 29.66	1.9986	21 0 23.1	9.657	2	17 4 8.58	2.1877	26 46 53.8	4.477
3	15 23 29.34	1.9987	21 9 59.9	9.568	3	17 6 20.14	2.1910	26 51 18.7	4.358
4	15 25 29.27	2.0000	21 19 31.3	9.478	4	17 8 31.90	2.1944	26 55 36.0	4.285
5	15 27 29.45	2.0051	21 28 57.3	9.388	5	17 10 43.86	2.1977	26 59 45.7	4.098
6	15 29 29.88	2.0092	21 38 17.9	9.297	6	17 12 56.01	2.2009	27 3 47.8	3.971
7	15 31 30.55	2.0134	21 47 33.0	9.205	7	17 15 8.34	2.2040	27 7 42.2	3.842
8	15 33 31.48	2.0176	21 56 42.5	9.112	8	17 17 20.86	2.2071	27 11 28.8	3.719
9	15 35 32.66	2.0218	22 5 46.4	9.018	9	17 19 33.56	2.2102	27 15 7.6	3.599
10	15 37 34.10	2.0261	22 14 44.6	8.923	10	17 21 46.43	2.2131	27 18 38.6	3.459
11	15 41 37.73	2.0303	22 23 37.1	8.828	11	17 23 59.47	2.2159	27 22 1.8	3.321
12	15 43 39.93	2.0345	22 32 23.9	8.732	12	17 26 12.68	2.2187	27 25 17.1	3.189
13	15 45 42.38	2.0387	22 41 4.9	8.634	13	17 28 26.05	2.2215	27 28 24.5	3.058
14	15 47 45.09	2.0430	22 49 40.0	8.536	14	17 30 39.58	2.2243	27 31 24.0	2.926
15	15 49 48.06	2.0473	22 58 9.2	8.437	15	17 32 53.27	2.2271	27 34 15.6	2.793
16	15 51 51.29	2.0516	23 6 32.4	8.337	16	17 35 7.11	2.2299	27 36 59.2	2.659
17	15 53 54.77	2.0559	23 14 49.6	8.237	17	17 37 21.09	2.2318	27 39 34.7	2.525
18	15 55 58.51	2.0602	23 23 0.8	8.136	18	17 39 35.21	2.2346	27 42 2.2	2.391
19	15 58 2.51	2.0645	23 31 5.9	8.033	19	17 41 49.47	2.2375	27 44 21.6	2.256
20	16 0 6.76	2.0687	23 39 4.8	7.930	20	17 44 3.86	2.2403	27 46 32.9	2.122
21	16 2 11.27	2.0730	23 46 57.5	7.827	21	17 46 18.38	2.2432	27 48 36.2	1.987
22	16 4 16.04	2.0773	23 54 44.0	7.724	22	17 48 33.02	2.2460	27 50 31.4	1.851
23	16 6 21.06	2.0816	S. 24 2 24.1	7.616	23	17 50 47.78	2.2489	S. 27 52 18.3	1.715
MONDAY 26.					WEDNESDAY 28.				
0	16 8 26.33	2.0900	S. 24 9 57.9	7.510	0	17 53 2.65	2.2517	S. 27 53 57.0	1.577
1	16 10 31.86	2.0942	24 17 25.3	7.403	1	17 55 17.63	2.2545	27 55 27.5	1.440
2	16 12 37.64	2.0984	24 24 46.3	7.296	2	17 57 32.71	2.2573	27 56 49.8	1.303
3	16 14 43.67	2.1026	24 32 0.8	7.187	3	17 59 47.89	2.2601	27 58 3.9	1.166
4	16 16 49.95	2.1068	24 39 8.7	7.077	4	18 2 3.16	2.2629	27 59 9.7	1.028
5	16 18 56.49	2.1111	24 46 10.0	6.967	5	18 4 18.52	2.2657	28 0 7.2	0.890
6	16 21 3.28	2.1153	24 53 4.7	6.856	6	18 6 33.96	2.2685	28 0 56.4	0.751
7	16 23 10.32	2.1195	24 59 52.7	6.744	7	18 8 49.47	2.2713	28 1 37.3	0.613
8	16 25 17.60	2.1233	25 6 33.9	6.631	8	18 11 5.06	2.2741	28 2 9.9	0.474
9	16 27 25.12	2.1273	25 13 8.4	6.518	9	18 13 20.72	2.2769	28 2 34.2	0.335
10	16 29 32.88	2.1314	25 19 36.1	6.404	10	18 15 36.44	2.2797	28 2 50.1	0.195
11	16 31 40.89	2.1355	25 25 56.9	6.289	11	18 17 52.21	2.2825	28 2 57.6	- 0.056
12	16 33 49.14	2.1395	25 32 10.7	6.173	12	18 20 8.03	2.2853	28 2 56.8	+ 0.083
13	16 35 57.63	2.1434	25 38 17.6	6.056	13	18 22 23.90	2.2881	28 2 47.6	0.223
14	16 38 6.35	2.1473	25 44 17.5	5.939	14	18 24 39.81	2.2909	28 2 30.0	0.363
15	16 40 15.31	2.1512	25 50 10.3	5.822	15	18 26 55.75	2.2937	28 2 4.0	0.503
16	16 42 24.50	2.1551	25 55 56.1	5.703	16	18 29 11.72	2.2965	28 1 29.6	0.643
17	16 44 33.92	2.1589	26 1 34.7	5.583	17	18 31 27.72	2.2993	28 0 46.8	0.783
18	16 46 43.56	2.1628	26 7 6.1	5.463	18	18 33 43.73	2.3021	27 59 55.6	0.923
19	16 48 53.43	2.1663	26 12 30.3	5.343	19	18 35 59.76	2.3049	27 58 56.0	1.063
20	16 51 3.52	2.1701	26 17 47.2	5.221	20	18 38 15.80	2.3077	27 57 48.0	1.204
21	16 53 13.84	2.1738	26 22 56.8	5.099	21	18 40 31.83	2.3105	27 56 31.5	1.345
22	16 55 24.37	2.1773	26 27 59.1	4.977	22	18 42 47.86	2.3133	27 55 6.6	1.485
23	16 57 35.11	2.1808	26 32 54.0	4.853	23	18 45 3.88	2.3161	27 53 33.3	1.625
24	16 59 46.06	2.1843	S. 26 37 41.4	4.728	24	18 47 19.89	2.3189	S. 27 51 51.6	1.765

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 29.					SATURDAY, JULY 1.				
0	^h 18 ^m 47 ^s 19.89	2.9667	S. 27° 51' 51.6"	1.765	0	^h 20 ^m 34 ^s 18.87	2.1666	S. 23° 50' 53.2"	8.101
1	18 49 35.88	2.9663	27 50 1.5	1.905					
2	18 51 51.84	2.9656	27 48 3.0	2.045					
3	18 54 7.77	2.9653	27 45 56.1	2.185					
4	18 56 23.67	2.9647	27 43 40.8	2.324					
5	18 58 39.53	2.9639	27 41 17.2	2.463					
6	19 0 55.34	2.9631	27 38 45.2	2.603					
7	19 3 11.10	2.9622	27 36 4.8	2.743					
8	19 5 26.80	2.9612	27 33 16.1	2.882					
9	19 7 42.45	2.9603	27 30 19.0	3.021					
10	19 9 58.03	2.9590	27 27 13.6	3.159					
11	19 12 13.53	2.9578	27 24 0.0	3.297					
12	19 14 28.96	2.9565	27 20 38.0	3.436					
13	19 16 44.31	2.9551	27 17 7.7	3.573					
14	19 18 59.57	2.9537	27 13 29.2	3.710					
15	19 21 14.75	2.9522	27 9 42.5	3.847					
16	19 23 29.83	2.9505	27 5 47.5	3.984					
17	19 25 44.81	2.9488	27 1 44.4	4.120					
18	19 27 59.69	2.9471	26 57 33.1	4.257					
19	19 30 14.46	2.9452	26 53 13.6	4.393					
20	19 32 29.11	2.9433	26 48 46.0	4.528					
21	19 34 43.65	2.9413	26 44 10.3	4.663					
22	19 36 58.07	2.9393	26 39 26.5	4.798					
23	19 39 12.37	2.9372	S. 26 34 34.6	4.932					
FRIDAY 30.					PHASES OF THE MOON.				
0	19 41 26.53	2.9349	S. 26 29 34.7	5.065	☾ Last Quarter . . . June	^d 7 ^h 1 ^m 42.9			
1	19 43 40.56	2.9327	26 24 26.8	5.198	● New Moon	13 17 51.1			
2	19 45 54.45	2.9304	26 19 10.9	5.331	☽ First Quarter	20 14 37.3			
3	19 48 8.21	2.9281	26 13 47.1	5.463	○ Full Moon	28 18 25.3			
4	19 50 21.82	2.9256	26 8 15.4	5.594					
5	19 52 35.28	2.9231	26 2 35.8	5.725					
6	19 54 48.59	2.9205	25 56 48.4	5.855					
7	19 57 1.74	2.9179	25 50 53.2	5.985					
8	19 59 14.74	2.9153	25 44 50.2	6.115					
9	20 1 27.58	2.9126	25 38 39.4	6.244	☾ Perigee June	^d 13 ^h 4.3			
10	20 3 40.25	2.9098	25 32 20.9	6.372	☾ Apogee	26 1.7			
11	20 5 52.75	2.9070	25 25 54.7	6.500					
12	20 8 5.09	2.9041	25 19 20.9	6.627					
13	20 10 17.25	2.9012	25 12 39.5	6.753					
14	20 12 29.23	2.1983	25 5 50.5	6.879					
15	20 14 41.04	2.1953	24 58 54.0	7.004					
16	20 16 52.67	2.1922	24 51 50.0	7.128					
17	20 19 4.11	2.1891	24 44 38.6	7.253					
18	20 21 15.36	2.1860	24 37 19.7	7.377					
19	20 23 26.43	2.1829	24 29 53.4	7.499					
20	20 25 37.31	2.1797	24 22 19.8	7.620					
21	20 27 47.99	2.1764	24 14 39.0	7.740					
22	20 29 58.48	2.1732	24 6 51.0	7.861					
23	20 32 8.77	2.1699	23 58 55.7	7.980					
24	20 34 18.87	2.1666	S. 23 50 53.2	8.101					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	SATURN W.	85° 38' 35"	3037	87° 8' 2"	3033	88° 37' 34"	3030	90° 7' 10"	3026
	Spica W.	69 1 16	3045	70 30 33	3041	71 59 55	3038	73 29 21	3034
	Antares W.	23 6 56	3047	24 36 11	3049	26 5 32	3038	27 34 58	3034
	Fomalhaut E.	61 13 56	3395	59 49 39	3300	58 25 27	3305	57 1 21	3311
	α Pegasi E.	82 38 38	3386	81 16 6	3386	79 53 34	3386	78 31 1	3386
2	SATURN W.	97 36 25	3005	99 6 32	2999	100 36 46	2993	102 7 7	2989
	Spica W.	80 57 48	3011	82 27 47	3006	83 57 52	3001	85 28 4	2996
	Antares W.	35 3 30	3010	36 33 30	3005	38 3 37	2999	39 33 51	2993
	Fomalhaut E.	50 2 46	3350	48 39 32	3362	47 16 32	3374	45 53 46	3389
	α Pegasi E.	71 38 26	3391	70 15 59	3393	68 53 35	3395	67 31 13	3399
3	Spica W.	93 0 52	2964	94 31 50	2957	96 2 57	2950	97 34 13	2942
	Antares W.	47 6 53	2963	48 37 54	2954	50 9 4	2946	51 40 24	2939
	α Pegasi E.	60 40 33	3425	59 18 45	3439	57 57 5	3441	56 35 35	3451
	α Arietis E.	101 17 44	3018	99 47 53	3009	98 17 52	3002	96 47 42	2994
	JUPITER E.	110 43 10	3045	109 13 53	3039	107 44 28	3030	106 14 53	3023
4	Spica W.	105 13 6	2999	106 45 26	2991	108 17 57	2980	109 50 41	2971
	Antares W.	59 19 35	2996	60 51 59	2987	62 24 34	2977	63 57 22	2968
	α Pegasi E.	49 51 28	3526	48 31 33	3548	47 12 2	3572	45 52 57	3599
	α Arietis E.	89 14 15	2950	87 43 0	2942	86 11 34	2939	84 39 56	2923
	JUPITER E.	98 44 27	2979	97 13 48	2970	95 42 58	2960	94 11 55	2950
	SUN E.	126 2 5	3259	124 37 6	3248	123 11 54	3238	121 46 30	3226
5	Antares W.	71 44 41	2813	73 18 52	2801	74 53 18	2789	76 28 0	2777
	α Arietis E.	76 58 37	2879	75 25 42	2860	73 52 32	2849	72 19 8	2838
	JUPITER E.	86 33 20	2894	85 0 54	2883	83 28 13	2871	81 55 17	2858
	SUN E.	114 36 3	3167	113 9 14	3154	111 42 10	3141	110 14 50	3128
6	Antares W.	84 25 40	2711	86 2 5	2697	87 38 49	2683	89 15 52	2669
	α Aquilæ W.	45 54 14	4753	46 54 29	4639	47 56 26	4518	49 0 2	4414
	α Arietis E.	64 28 24	2779	62 53 29	2768	61 18 19	2756	59 42 53	2744
	JUPITER E.	74 6 23	2791	72 31 43	2777	70 56 45	2763	69 21 28	2748
	SUN E.	102 53 58	3056	101 24 54	3041	99 55 32	3026	98 25 51	3009
7	Antares W.	97 26 7	2592	99 5 13	2577	100 44 40	2561	102 24 29	2544
	α Aquilæ W.	54 39 58	3984	55 51 53	3915	57 4 58	3849	58 19 10	3786
	α Arietis E.	51 41 44	2684	50 4 43	2673	48 27 27	2662	46 49 56	2652
	JUPITER E.	61 20 6	2672	59 42 48	2655	58 5 8	2639	56 27 6	2623
	SUN E.	90 52 25	2927	89 20 41	2911	87 48 36	2894	86 16 9	2876
8	α Aquilæ W.	64 45 24	3522	66 5 24	3477	67 26 14	3434	68 47 52	3394
	Fomalhaut W.	32 17 16	3186	33 43 42	3108	35 11 42	3036	36 41 10	2972
	α Arietis E.	38 39 11	2611	37 0 31	2607	35 21 45	2604	33 42 56	2604
	JUPITER E.	48 11 22	2540	46 31 5	2523	44 50 24	2507	43 9 21	2490
	SUN E.	78 28 15	2788	76 53 31	2770	75 18 24	2751	73 42 52	2734
9	α Aquilæ W.	75 46 50	3220	77 12 35	3192	78 38 54	3164	80 5 47	3138
	Fomalhaut W.	44 26 40	2722	46 2 51	2683	47 39 54	2646	49 17 46	2611
	JUPITER E.	34 38 16	2410	32 54 55	2394	31 11 11	2379	29 27 6	2365
	SUN E.	65 39 16	2644	64 1 21	2627	62 23 3	2610	60 44 21	2592

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	SATURN W.	91° 36' 51"	3022	93° 6' 36"	3018	94° 36' 27"	3014	96° 6' 23"	3009
	Spica W.	74 58 52	3030	76 28 28	3026	77 58 9	3021	79 27 56	3017
	Antares W.	29 4 29	3029	30 34 6	3025	32 3 48	3020	33 33 36	3015
	Fomalhaut E.	55 37 22	3316	54 13 30	3324	52 49 46	3332	51 26 11	3340
	α Pegasi E.	77 8 29	3386	75 45 57	3386	74 23 25	3388	73 0 55	3389
2	SATURN W.	103 37 34	2983	105 8 8	2977	106 38 50	2971	108 9 39	2964
	Spica W.	86 58 22	2989	88 28 48	2984	89 59 21	2977	91 30 2	2970
	Antares W.	41 4 12	2988	42 34 40	2981	44 5 16	2975	45 36 0	2968
	Fomalhaut E.	44 31 17	3405	43 9 6	3423	41 47 16	3444	40 25 49	3466
	α Pegasi E.	66 8 55	3402	64 46 41	3407	63 24 32	3412	62 2 29	3418
3	Spica W.	99 5 39	2934	100 37 15	2926	102 9 1	2917	103 40 58	2909
	Antares W.	53 11 53	2931	54 43 32	2923	56 15 22	2914	57 47 23	2905
	α Pegasi E.	55 14 16	3463	53 53 10	3476	52 32 19	3480	51 11 44	3507
	α Arietis E.	95 17 22	2985	93 46 51	2977	92 16 10	2969	90 45 18	2960
	JUPITER E.	104 45 9	3015	103 15 15	3006	101 45 10	2997	100 14 54	2989
4	Spica W.	111 23 37	2861	112 56 46	2850	114 30 9	2840	116 3 45	2822
	Antares W.	65 30 22	2857	67 3 36	2847	68 37 3	2835	70 10 45	2825
	α Pegasi E.	44 34 22	2631	43 16 21	2627	41 58 59	2708	40 42 20	2754
	α Arietis E.	83 8 6	2912	81 36 3	2903	80 3 48	2892	78 31 19	2882
	JUPITER E.	92 40 39	2939	91 9 10	2928	89 37 27	2918	88 5 31	2906
	SUN E.	120 20 52	2915	118 55 1	2904	117 28 56	2892	116 2 37	2879
5	Antares W.	78 2 58	2765	79 38 12	2751	81 13 44	2738	82 49 33	2725
	α Arietis E.	70 45 29	2826	69 11 35	2815	67 37 27	2803	66 3 3	2792
	JUPITER E.	80 22 4	2845	78 48 35	2831	77 14 48	2818	75 40 44	2805
	SUN E.	108 47 14	3114	107 19 21	3100	105 51 11	3085	104 22 43	3071
6	Antares W.	90 53 14	2654	92 30 56	2638	94 8 59	2624	95 47 22	2607
	α Aquilæ W.	50 5 11	4315	51 11 50	4294	52 19 53	4139	53 29 17	4080
	α Arietis E.	58 7 11	2732	56 31 13	2719	54 54 59	2707	53 18 29	2696
	JUPITER E.	67 45 52	2733	66 9 56	2718	64 33 40	2702	62 57 3	2687
	SUN E.	96 55 50	2994	95 25 30	2977	93 54 49	2962	92 23 48	2944
7	Antares W.	104 4 41	2528	105 45 15	2511	107 26 13	2494	109 7 34	2478
	α Aquilæ W.	59 34 27	3727	60 50 45	3672	62 8 2	3619	63 26 16	3569
	α Arietis E.	45 12 12	2649	43 34 14	2633	41 56 4	2624	40 17 42	2618
	JUPITER E.	54 48 42	2607	53 9 56	2590	51 30 47	2574	49 51 16	2557
	SUN E.	84 43 20	2859	83 10 8	2841	81 36 33	2824	80 2 36	2805
8	α Aquilæ W.	70 10 15	3356	71 33 22	3319	72 57 12	3284	74 21 42	3259
	Fomalhaut W.	38 11 58	2913	39 44 0	2859	41 17 11	2810	42 51 26	2785
	α Arietis E.	32 4 6	2607	30 25 20	2613	28 46 43	2624	27 8 21	2640
	JUPITER E.	41 27 54	2474	39 46 4	2458	38 3 51	2441	36 21 15	2425
	SUN E.	72 6 57	2715	70 30 37	2698	68 53 54	2650	67 16 47	2629
9	α Aquilæ W.	81 33 9	3114	83 1 2	3091	84 29 22	3070	85 58 8	3051
	Fomalhaut W.	50 56 27	2678	52 35 52	2647	54 16 0	2617	55 56 49	2490
	JUPITER E.	27 42 41	2351	25 57 56	2338	24 12 52	2326	22 27 30	2315
	SUN E.	59 5 16	2576	57 25 48	2559	55 45 57	2543	54 5 43	2527

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	α Aquilæ W.	87° 27' 18"	3033	88° 56' 50"	3017	90° 26' 42"	3008	91° 56' 52"	3000
	Fomalhaut W.	57 38 16	9464	59 20 20	9438	61 3 0	9415	62 46 13	9389
	α Pegasi W.	39 43 0	3108	41 11 0	3089	42 40 37	3068	44 11 43	3049
	SUN E.	52 25 7	2519	50 44 10	9496	49 2 51	9468	47 21 12	9467
11	Fomalhaut W.	71 29 45	9299	73 15 46	9283	75 2 11	9266	76 48 57	9255
	α Pegasi W.	52 5 48	9845	53 43 42	9807	55 22 27	9778	57 2 0	9741
	SUN E.	38 48 17	9407	37 4 52	9398	35 21 14	9389	33 37 28	9381
15	SUN W.	18 27 47	9456	20 10 2	9459	21 52 23	9459	23 34 44	9454
	Regulus E.	46 7 53	9078	44 16 20	9091	42 25 7	9104	40 34 14	9118
	SATURN E.	83 30 44	9069	81 38 46	9074	79 47 7	9086	77 55 46	9099
	Spica E.	100 7 38	9089	98 15 41	9073	96 24 1	9085	94 32 39	9096
16	SUN W.	32 4 33	9498	33 45 49	9519	35 26 46	9535	37 7 24	9548
	SATURN E.	68 43 58	9168	66 54 42	9183	65 5 49	9199	63 17 20	9215
	Spica E.	85 20 48	9167	83 31 31	9189	81 42 37	9198	79 54 6	9214
17	SUN W.	45 25 8	9693	47 3 32	9641	48 41 31	9600	50 19 5	9578
	VENUS W.	33 0 20	9793	34 36 29	9740	36 12 16	9758	37 47 39	9775
	SATURN E.	54 21 7	9301	52 35 9	9390	50 49 38	9337	49 4 33	9359
	Spica E.	70 57 46	9300	69 11 47	9318	67 26 14	9337	65 41 8	9355
18	SUN W.	58 20 35	9775	59 55 36	9794	61 30 12	9814	63 4 22	9834
	VENUS W.	45 38 32	9871	47 11 28	9891	48 43 59	9910	50 16 5	9929
	Pollux W.	33 48 45	9448	35 31 11	9466	37 13 12	9485	38 54 47	9508
	SATURN E.	40 25 49	9449	38 43 24	9468	37 1 26	9487	35 19 54	9505
	Spica E.	57 2 16	9448	55 19 50	9467	53 37 50	9486	51 56 17	9505
	Antares E.	102 55 1	9443	101 12 28	9469	99 30 22	9481	97 48 42	9499
19	SUN W.	70 48 52	9931	72 20 32	9950	73 51 48	9969	75 22 40	9987
	VENUS W.	57 50 24	3098	59 20 2	3047	60 49 17	3066	62 18 8	3085
	Pollux W.	47 16 23	9593	48 55 28	9611	50 34 8	9629	52 12 24	9648
	Spica E.	43 35 6	9599	41 56 9	9617	40 17 37	9635	38 39 30	9653
	Antares E.	89 26 48	9591	87 47 40	9609	86 8 57	9626	84 30 38	9644
20	SUN W.	82 51 17	3078	84 19 54	3094	85 48 11	3111	87 16 7	3128
	VENUS W.	69 36 44	3176	71 3 22	3193	72 29 39	3210	73 55 36	3227
	Pollux W.	60 18 1	9729	61 54 2	9744	63 29 43	9760	65 5 3	9773
	Regulus W.	23 55 51	9783	25 30 41	9794	27 5 17	9805	28 39 39	9815
	Antares E.	76 24 50	9798	74 48 47	9744	73 13 5	9760	71 37 44	9771
21	SUN W.	94 30 56	3305	95 56 59	3390	97 22 45	3383	98 48 15	3467
	VENUS W.	81 0 33	3305	82 24 39	3319	83 48 28	3334	85 12 0	3467
	Pollux W.	72 56 54	9846	74 30 22	9859	76 3 33	9879	77 36 28	9894
	Regulus W.	36 27 56	9879	38 0 51	9883	39 33 32	9894	41 5 59	9905
	Antares E.	63 45 47	9845	62 12 18	9859	60 39 6	9879	59 6 11	9895
22	SUN W.	105 51 55	3308	107 15 57	3319	108 39 46	3330	110 3 23	3402
	VENUS W.	92 5 57	3409	93 28 3	3421	94 49 56	3431	96 11 37	3441
	Pollux W.	85 17 15	9940	86 48 43	9950	88 19 58	9960	89 51 1	9969
	Regulus W.	48 44 49	9956	50 15 57	9965	51 46 54	9974	53 17 39	9989

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	α Aquilæ W.	93° 27' 17"	2279	94° 57' 56"	2271	96° 26' 45"	2264	97° 59' 43"	2258
	Fomalhaut W.	64 29 58	2372	66 14 13	2352	67 58 57	2333	69 44 8	2315
	α Pegasi W.	45 44 12	2233	47 17 57	2720	48 52 51	2731	50 28 50	2687
	Sun E.	45 39 13	2455	43 56 56	2441	42 14 20	2429	40 31 27	2417
11	Fomalhaut W.	78 36 3	2243	80 23 27	2231	82 11 9	2220	83 59 6	2211
	α Pegasi W.	58 42 16	2512	60 23 13	2486	62 4 46	2462	63 46 53	2439
	Sun E.	31 53 21	2374	30 9 9	2369	28 24 50	2367	26 40 28	2365
15	Sun W.	25 17 2	2459	26 59 13	2467	28 41 13	2476	30 23 0	2486
	Regulus E.	38 43 42	2133	36 53 33	2149	35 3 49	2166	33 14 30	2182
	SATURN E.	76 4 43	2111	74 14 0	2124	72 23 38	2132	70 33 37	2153
	Spica E.	92 41 36	2111	90 50 53	2124	89 0 30	2137	87 10 28	2152
16	Sun W.	38 47 41	2556	40 27 37	2572	42 7 10	2588	43 46 21	2606
	SATURN E.	61 29 15	2232	59 41 35	2249	57 54 20	2266	56 7 31	2283
	Spica E.	78 6 0	2231	76 18 18	2246	74 31 2	2265	72 44 11	2283
17	Sun W.	51 56 14	2207	53 32 58	2716	55 9 16	2726	56 45 8	2755
	VENUS W.	39 22 39	2725	40 57 14	2813	42 31 25	2832	44 5 11	2852
	SATURN E.	47 19 55	2375	45 35 44	2393	43 51 59	2412	42 8 41	2430
	Spica E.	63 56 28	2373	62 12 15	2392	60 28 29	2410	58 45 9	2429
18	Sun W.	64 38 6	2253	66 11 25	2273	67 44 19	2292	69 16 48	2312
	VENUS W.	51 47 47	2250	53 19 3	2269	54 49 55	2289	56 20 22	2309
	Pollux W.	40 35 57	2521	42 16 41	2539	43 57 0	2557	45 36 54	2575
	SATURN E.	33 38 48	2525	31 58 9	2543	30 17 55	2561	28 38 7	2579
	Spica E.	50 15 11	2524	48 34 31	2543	46 54 17	2561	45 14 29	2579
	Antares E.	96 7 28	2518	94 26 40	2536	92 46 17	2555	91 6 20	2571
19	Sun W.	76 53 9	3005	78 23 15	3024	79 52 58	3043	81 22 18	3062
	VENUS W.	63 46 36	3104	65 14 41	3122	66 42 24	3140	68 9 45	3158
	Pollux W.	53 50 17	2663	55 27 47	2680	57 4 54	2697	58 41 38	2713
	Spica E.	37 1 47	2671	35 24 28	2689	33 47 34	2707	32 11 4	2725
	Antares E.	82 52 43	2661	81 15 11	2678	79 38 2	2695	78 1 15	2711
20	Sun W.	88 43 43	3143	90 11 0	3160	91 37 57	3175	93 4 36	3191
	VENUS W.	75 21 13	3243	76 46 31	3259	78 11 30	3276	79 36 10	3290
	Pollux W.	66 40 3	2721	68 14 43	2805	69 49 5	2819	71 23 8	2832
	Regulus W.	30 13 47	2826	31 47 41	2837	33 21 21	2848	34 54 46	2860
	Antares E.	70 2 42	2729	68 28 0	2804	66 53 37	2818	65 19 33	2832
21	Sun W.	100 13 29	3259	101 38 28	3273	103 3 11	3285	104 27 40	3297
	VENUS W.	86 35 17	3361	87 58 18	3373	89 21 5	3386	90 43 38	3398
	Pollux W.	79 9 7	2807	80 41 30	2808	82 13 39	2819	83 45 34	2830
	Regulus W.	42 38 11	2916	44 10 10	2926	45 41 56	2936	47 13 29	2946
	Antares E.	57 33 31	2826	56 1 7	2907	54 28 57	2919	52 57 2	2930
22	Sun W.	111 26 47	3351	112 50 0	3360	114 13 2	3369	115 35 52	3378
	VENUS W.	97 33 7	3451	98 54 26	3461	100 15 34	3470	101 36 32	3478
	Pollux W.	91 21 53	2977	92 52 34	2986	94 23 4	2994	95 53 24	3001
	Regulus W.	54 48 14	2990	56 18 39	2998	57 48 54	3005	59 19 0	3014

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
22	Antares E.	51° 25' 21"	2940	49° 53' 53"	2950	48° 22' 38"	2960	46° 51' 35"	2960
	α Aquilæ E.	101 2 56	3807	99 48 1	3810	98 33 9	3813	97 18 19	3816
23	SUN W.	116 58 36	3386	118 21 9	3394	119 43 32	3401	121 5 47	3406
	VENUS W.	102 57 21	3486	104 18 1	3493	105 38 33	3501	106 58 56	3507
	Regulus W.	60 48 56	3020	62 18 44	3026	63 48 24	3032	65 17 57	3036
	SATURN W.	23 5 30	3019	24 35 19	3025	26 5 1	3031	27 34 35	3037
	Antares E.	39 19 2	3009	37 49 1	3016	36 19 8	3023	34 49 24	3029
	α Aquilæ E.	91 5 14	3841	89 50 54	3848	88 36 41	3855	87 22 35	3863
24	Regulus W.	72 44 5	3061	74 13 2	3065	75 41 55	3068	77 10 44	3071
	SATURN W.	35 0 44	3062	36 29 40	3065	37 58 32	3069	39 27 20	3072
	Spica W.	18 42 56	3084	20 11 25	3085	21 39 53	3085	23 8 21	3085
	α Aquilæ E.	81 14 21	3912	80 1 13	3923	78 48 17	3935	77 35 33	3946
25	Regulus W.	84 34 1	3081	86 2 34	3082	87 31 5	3082	88 59 36	3083
	SATURN W.	46 50 30	3082	48 19 1	3084	49 47 30	3085	51 15 58	3085
	Spica W.	30 30 41	3085	31 59 9	3086	33 27 36	3086	34 56 3	3085
	α Aquilæ E.	71 35 28	4098	70 24 16	4046	69 13 22	4067	68 2 48	4088
	Fomalhaut E.	98 0 21	3969	96 35 33	3968	95 10 44	3969	93 45 56	3968
26	Regulus W.	96 22 6	3082	97 50 38	3081	99 19 11	3080	100 47 45	3078
	SATURN W.	58 38 16	3084	60 6 45	3082	61 35 16	3082	63 3 48	3081
	Spica W.	42 18 32	3080	43 47 6	3079	45 15 41	3077	46 44 19	3075
	α Aquilæ E.	62 15 39	4220	61 7 32	4252	59 59 55	4268	58 52 51	4325
	Fomalhaut E.	86 41 51	3967	85 17 1	3967	83 52 11	3967	82 27 21	3967
	α Pegasi E.	107 21 16	3440	105 59 45	3433	104 38 6	3427	103 16 20	3421
27	SATURN W.	70 26 59	3069	71 55 46	3067	73 24 36	3064	74 53 30	3061
	Spica W.	54 8 6	3063	55 37 1	3060	57 5 59	3056	58 35 2	3053
	α Aquilæ E.	53 26 57	4560	52 23 58	4621	51 21 51	4685	50 20 39	4756
	Fomalhaut E.	75 23 10	3967	73 58 20	3968	72 33 31	3968	71 8 42	3969
	α Pegasi E.	96 25 55	3395	95 3 33	3391	93 41 6	3386	92 18 34	3382
28	SATURN W.	82 19 0	3043	83 48 20	3039	85 17 45	3034	86 47 16	3030
	Spica W.	66 1 22	3034	67 30 53	3030	69 0 29	3026	70 30 10	3021
	Antares W.	20 7 3	3036	21 36 31	3032	23 6 4	3027	24 35 43	3022
	Fomalhaut E.	64 4 56	3976	62 40 17	3979	61 15 41	3982	59 51 9	3986
	α Pegasi E.	85 24 51	3366	84 1 56	3364	82 38 58	3362	81 15 58	3360
29	SATURN W.	94 16 16	3005	95 46 22	3000	97 16 35	2995	98 46 54	2989
	Spica W.	78 0 6	2996	79 30 24	2990	81 0 49	2985	82 31 21	2979
	Antares W.	32 5 38	2995	33 35 57	2989	35 6 23	2984	36 36 56	2977
	Fomalhaut E.	52 49 46	3314	51 25 51	3323	50 2 6	3333	48 38 33	3344
	α Pegasi E.	74 20 34	3357	72 57 28	3357	71 34 22	3358	70 11 17	3358
30	SATURN W.	106 20 20	2959	107 51 24	2953	109 22 36	2946	110 53 56	2940
	Spica W.	90 5 49	2950	91 37 5	2949	93 8 30	2936	94 40 3	2930
	Antares W.	44 11 34	2947	45 42 53	2941	47 14 20	2935	48 45 55	2927
	Fomalhaut E.	41 44 39	3430	40 22 56	3454	39 1 41	3483	37 40 58	3515
	α Pegasi E.	63 16 34	3377	61 53 51	3383	60 31 15	3390	59 8 47	3388
	α Arietis E.	104 10 5	3003	102 39 56	2996	101 9 38	2989	99 39 11	2981

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
22	Antares	E.	45 20 43	2977	43 50 2	2986	42 19 32	2994	40 49 12	3002
	α Aquilæ	E.	96 3 33	3890	94 48 51	3893	93 34 13	3899	92 19 41	3894
23	SUN	W.	122 27 54	3415	123 49 53	3422	125 11 45	3428	126 33 30	3433
	VENUS	W.	108 19 12	3514	109 39 21	3520	110 59 23	3525	112 19 19	3531
	Regulus	W.	66 47 23	3043	68 16 42	3048	69 45 55	3052	71 15 3	3057
	SATURN	W.	29 4 2	3043	30 33 22	3048	32 2 35	3053	33 31 42	3057
	Antares	E.	33 19 47	3035	31 50 18	3040	30 20 55	3046	28 51 39	3050
	α Aquilæ	E.	86 8 38	3871	84 54 49	3881	83 41 10	3890	82 27 40	3901
24	Regulus	W.	78 39 29	3073	80 8 11	3076	81 36 50	3078	83 5 27	3080
	SATURN	W.	40 56 4	3075	42 24 44	3077	43 53 22	3079	45 21 57	3081
	Spica	W.	24 36 49	3085	26 5 17	3085	27 33 45	3085	29 2 13	3085
	α Aquilæ	E.	76 23 2	3908	75 10 45	3978	73 58 44	3993	72 46 58	4010
25	Regulus	W.	90 28 6	3083	91 56 36	3084	93 25 5	3083	94 53 35	3082
	SATURN	W.	52 44 26	3086	54 12 53	3086	55 41 20	3085	57 9 48	3085
	Spica	W.	36 24 31	3085	37 52 59	3083	39 21 29	3082	40 50 0	3082
	α Aquilæ	E.	66 52 35	4111	65 42 44	4136	64 33 17	4162	63 24 15	4189
	Fomalhaut	E.	92 21 7	3968	90 56 18	3968	89 31 29	3968	88 6 40	3968
26	Regulus	W.	102 16 21	3077	103 44 59	3074	105 13 40	3073	106 42 23	3071
	SATURN	W.	64 32 21	3078	66 0 57	3077	67 29 35	3074	68 58 16	3073
	Spica	W.	48 12 59	3073	49 41 42	3071	51 10 27	3069	52 39 15	3066
	α Aquilæ	E.	57 46 21	4365	56 40 28	4409	55 35 15	4456	54 30 44	4506
	Fomalhaut	E.	81 2 31	3966	79 37 40	3967	78 12 50	3967	76 48 0	3967
	α Pegasi	E.	101 54 27	3415	100 32 28	3410	99 10 23	3405	97 48 12	3400
27	SATURN	W.	76 22 27	3057	77 51 29	3054	79 20 35	3051	80 49 45	3047
	Spica	W.	60 4 9	3050	61 33 20	3046	63 2 36	3042	64 31 57	3039
	α Aquilæ	E.	49 20 26	4832	48 21 16	4916	47 23 14	5007	46 26 24	5106
	Fomalhaut	E.	69 43 54	3870	68 19 7	3870	66 54 21	3872	65 29 37	3875
	α Pegasi	E.	90 55 57	3379	89 33 16	3375	88 10 31	3372	86 47 43	3369
28	SATURN	W.	88 16 52	3025	89 46 34	3020	91 16 22	3015	92 46 16	3010
	Spica	W.	71 59 57	3016	73 29 50	3011	74 59 49	3006	76 29 54	3001
	Antares	W.	26 5 29	3017	27 35 21	3011	29 5 20	3005	30 35 26	3001
	Fomalhaut	E.	58 26 41	3290	57 2 18	3295	55 38 1	3300	54 13 50	3306
	α Pegasi	E.	79 52 56	3360	78 29 52	3358	77 6 47	3357	75 43 41	3356
29	SATURN	W.	100 17 21	2983	101 47 55	2977	103 18 36	2972	104 49 24	2965
	Spica	W.	84 2 0	2973	85 32 46	2968	87 3 39	2962	88 34 40	2955
	Antares	W.	38 7 37	2972	39 38 25	2966	41 9 20	2960	42 40 23	2954
	Fomalhaut	E.	47 15 12	3357	45 52 6	3372	44 29 17	3388	43 6 47	3408
	α Pegasi	E.	68 48 14	3361	67 25 13	3365	66 2 16	3368	64 39 23	3372
30	SATURN	W.	112 25 24	2934	113 57 0	2927	115 28 45	2920	117 0 39	2912
	Spica	W.	96 11 44	2923	97 43 34	2916	99 15 32	2909	100 47 40	2902
	Antares	W.	50 17 39	2920	51 49 32	2914	53 21 33	2907	54 53 43	2900
	Fomalhaut	E.	36 20 51	3554	35 1 26	3598	33 42 49	3649	32 25 7	3708
	α Pegasi	E.	57 46 28	3408	56 24 20	3418	55 2 24	3431	53 40 43	3445
	α Arietis	E.	98 8 35	2974	96 37 50	2967	95 6 56	2960	93 35 53	2952

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Added to Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Sat.	1	^h 6 ^m 42 ^s 40.86	10.333	N. 23° 5' 32".6	-10.53	15' 46".18	68.76	^m 3 ^s 37.29	0.475
SUN.	2	6 46 48.72	10.323	23 1 7.7	11.54	15 46.17	68.72	3 48.57	0.464
Mon.	3	6 50 56.32	10.310	22 56 18.7	12.54	15 46.16	68.68	3 59.57	0.452
Tues.	4	6 55 3.64	10.298	22 51 5.7	-13.54	15 46.16	68.64	4 10.29	0.440
Wed.	5	6 59 10.64	10.285	22 45 28.9	14.53	15 46.17	68.59	4 20.71	0.427
Thur.	6	7 3 17.32	10.271	22 39 28.4	15.51	15 46.18	68.54	4 30.80	0.413
Frid.	7	7 7 23.66	10.256	22 33 4.2	-16.50	15 46.19	68.49	4 40.55	0.399
Sat.	8	7 11 29.62	10.241	22 26 16.6	17.47	15 46.20	68.43	4 49.94	0.383
SUN.	9	7 15 35.21	10.224	22 19 5.7	18.44	15 46.23	68.38	4 58.94	0.367
Mon.	10	7 19 40.39	10.207	22 11 31.7	-19.40	15 46.25	68.32	5 7.54	0.350
Tues.	11	7 23 45.15	10.189	22 3 34.6	20.35	15 46.28	68.26	5 15.72	0.332
Wed.	12	7 27 49.47	10.171	21 55 14.8	21.30	15 46.32	68.19	5 23.46	0.313
Thur.	13	7 31 53.34	10.151	21 46 32.4	-22.23	15 46.37	68.13	5 30.76	0.294
Frid.	14	7 35 56.72	10.131	21 37 27.6	23.16	15 46.42	68.06	5 37.56	0.273
Sat.	15	7 39 59.60	10.109	21 28 0.7	24.08	15 46.47	67.99	5 43.86	0.252
SUN.	16	7 44 1.97	10.088	21 18 11.8	-24.99	15 46.53	67.92	5 49.65	0.230
Mon.	17	7 48 3.81	10.065	21 8 1.2	25.89	15 46.60	67.84	5 54.92	0.208
Tues.	18	7 52 5.10	10.042	20 57 29.1	26.78	15 46.67	67.77	5 59.65	0.185
Wed.	19	7 56 5.83	10.018	20 46 35.7	-27.66	15 46.75	67.69	6 3.81	0.161
Thur.	20	8 0 6.00	9.995	20 35 21.4	28.53	15 46.83	67.61	6 7.40	0.138
Frid.	21	8 4 5.59	9.970	20 23 46.4	29.38	15 46.91	67.53	6 10.42	0.114
Sat.	22	8 8 4.57	9.945	20 11 51.0	-30.23	15 47.00	67.45	6 12.85	0.089
SUN.	23	8 12 2.97	9.921	19 59 35.3	31.05	15 47.10	67.37	6 14.69	0.064
Mon.	24	8 16 0.77	9.896	19 46 59.7	31.89	15 47.20	67.29	6 15.92	0.039
Tues.	25	8 19 57.97	9.871	19 34 4.5	-32.71	15 47.30	67.21	6 16.56	0.014
Wed.	26	8 23 54.57	9.846	19 20 49.8	33.51	15 47.40	67.12	6 16.60	0.011
Thur.	27	8 27 50.56	9.820	19 7 15.9	34.30	15 47.51	67.04	6 16.04	0.036
Frid.	28	8 31 45.94	9.795	18 53 23.2	-35.08	15 47.62	66.95	6 14.86	0.061
Sat.	29	8 35 40.72	9.770	18 39 11.9	35.85	15 47.73	66.87	6 13.09	0.086
SUN.	30	8 39 34.90	9.745	18 24 42.2	36.61	15 47.85	66.78	6 10.73	0.111
Mon.	31	8 43 28.48	9.721	18 9 54.4	37.36	15 47.97	66.69	6 7.76	0.136
Tues.	32	8 47 21.47	9.696	N. 17 54 48.8	-38.10	15 48.09	66.61	6 4.19	0.161

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.18 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
Sat.	1	^h 6 ^m 42 ^s 40.24	10.332	N. 23° 5' 33.2"	-10.53	^m 3 ^s 37.26	0.475	^h 6 ^m 39 ^s 2.98
SUN.	2	6 46 48.08	10.321	23 1 8.4	11.54	3 48.54	0.464	6 42 59.54
Mon.	3	6 50 55.64	10.309	22 56 19.5	12.54	3 59.54	0.452	6 46 56.10
Tues.	4	6 55 2.92	10.297	22 51 6.7	-13.53	4 10.26	0.440	6 50 52.66
Wed.	5	6 59 9.90	10.284	22 45 30.0	14.52	4 20.68	0.427	6 54 49.22
Thur.	6	7 3 16.55	10.270	22 39 29.5	15.51	4 30.77	0.413	6 58 45.78
Frid.	7	7 7 22.86	10.255	22 33 5.5	-16.49	4 40.52	0.399	7 2 42.34
Sat.	8	7 11 28.80	10.240	22 26 18.0	17.46	4 49.91	0.383	7 6 38.89
SUN.	9	7 15 34.36	10.223	22 19 7.2	18.43	4 58.91	0.367	7 10 35.45
Mon.	10	7 19 39.52	10.206	22 11 33.3	-19.39	5 7.51	0.350	7 14 32.01
Tues.	11	7 23 44.26	10.188	22 3 36.4	20.35	5 15.69	0.333	7 18 28.57
Wed.	12	7 27 48.56	10.170	21 55 16.7	21.29	5 23.43	0.313	7 22 25.13
Thur.	13	7 31 52.41	10.150	21 46 34.5	-22.23	5 30.73	0.294	7 26 21.68
Frid.	14	7 35 55.77	10.130	21 37 29.8	23.16	5 37.53	0.273	7 30 18.24
Sat.	15	7 39 58.64	10.109	21 28 2.9	24.08	5 43.84	0.252	7 34 14.80
SUN.	16	7 44 0.99	10.087	21 18 14.1	-24.99	5 49.63	0.230	7 38 11.36
Mon.	17	7 48 2.82	10.065	21 8 3.7	25.88	5 54.90	0.208	7 42 7.92
Tues.	18	7 52 4.10	10.042	20 57 31.7	26.77	5 59.63	0.185	7 46 4.47
Wed.	19	7 56 4.82	10.018	20 46 38.5	-27.65	6 3.79	0.162	7 50 1.03
Thur.	20	8 0 4.98	9.994	20 35 24.3	28.52	6 7.39	0.138	7 53 57.59
Frid.	21	8 4 4.56	9.970	20 23 49.4	29.38	6 10.41	0.114	7 57 54.15
Sat.	22	8 8 3.54	9.946	20 11 54.1	-30.23	6 12.84	0.089	8 1 50.70
SUN.	23	8 12 1.94	9.921	19 59 38.5	31.06	6 14.68	0.064	8 5 47.26
Mon.	24	8 15 59.74	9.896	19 47 3.0	31.89	6 15.92	0.039	8 9 43.82
Tues.	25	8 19 56.94	9.871	19 34 7.8	-32.70	6 16.56	0.014	8 13 40.38
Wed.	26	8 23 53.54	9.846	19 20 53.2	33.51	6 16.60	0.011	8 17 36.94
Thur.	27	8 27 49.53	9.820	19 7 19.5	34.30	6 16.04	0.036	8 21 33.49
Frid.	28	8 31 44.92	9.795	18 53 26.9	-35.08	6 14.87	0.061	8 25 30.05
Sat.	29	8 35 39.71	9.770	18 39 15.6	35.85	6 13.10	0.086	8 29 26.61
SUN.	30	8 39 33.90	9.745	18 24 45.9	36.61	6 10.74	0.111	8 33 23.16
Mon.	31	8 43 27.49	9.721	18 9 58.2	37.36	6 7.77	0.136	8 37 19.72
Tues.	32	8 47 20.49	9.696	N. 17 54 52.6	-38.10	6 4.21	0.160	8 41 16.28

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 Hour,
+ 9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	182	99° 48' 34.8"	48' 16.4"	142.95	— 0.49	0.0072026	+ 1.8	17 ^h 18 ^m 6.48 ^s
2	183	100 45 45.5	45 26.9	142.95	0.44	0.0072062	1.9	17 14 10.57
3	184	101 42 56.5	42 37.8	142.96	0.37	0.0072082	+ 0.4	17 10 14.66
4	185	102 40 7.8	39 48.9	142.98	— 0.27	0.0072085	— 0.2	17 6 18.74
5	186	103 37 19.4	37 0.3	142.99	0.15	0.0072070	1.0	17 2 22.83
6	187	104 34 31.4	34 12.1	143.01	— 0.02	0.0072036	1.8	16 58 26.92
7	188	105 31 43.8	31 24.3	143.02	+ 0.11	0.0071982	— 2.7	16 54 31.00
8	189	106 28 56.5	28 36.8	143.04	0.24	0.0071906	3.7	16 50 35.10
9	190	107 26 9.6	25 49.7	143.06	0.36	0.0071806	4.7	16 46 39.18
10	191	108 23 23.2	23 3.1	143.08	+ 0.47	0.0071681	— 5.7	16 42 43.27
11	192	109 20 37.2	20 17.0	143.09	0.55	0.0071532	6.7	16 38 47.35
12	193	110 17 51.6	17 31.2	143.12	0.61	0.0071358	7.8	16 34 51.44
13	194	111 15 6.4	14 45.8	143.14	+ 0.64	0.0071158	— 8.9	16 30 55.54
14	195	112 12 21.6	12 0.8	143.15	0.63	0.0070931	9.9	16 26 59.62
15	196	113 9 37.1	9 16.1	143.16	0.59	0.0070677	11.1	16 23 3.71
16	197	114 6 52.9	6 31.8	143.16	+ 0.53	0.0070397	— 12.2	16 19 7.79
17	198	115 4 9.0	3 47.7	143.18	0.45	0.0070093	13.2	16 15 11.88
18	199	116 1 25.4	1 3.9	143.19	0.35	0.0069765	14.2	16 11 15.98
19	200	116 58 42.1	58 20.4	143.20	+ 0.22	0.0069413	— 15.1	16 7 20.06
20	201	117 55 59.0	55 37.1	143.21	+ 0.08	0.0069039	16.0	16 3 24.15
21	202	118 53 16.2	52 54.2	143.22	— 0.05	0.0068644	16.9	15 59 28.23
22	203	119 50 33.7	50 11.5	143.24	— 0.17	0.0068230	— 17.6	15 55 32.33
23	204	120 47 51.5	47 29.1	143.25	0.29	0.0067798	18.4	15 51 36.41
24	205	121 45 9.8	44 47.3	143.27	0.39	0.0067350	19.0	15 47 40.50
25	206	122 42 28.6	42 5.9	143.29	— 0.46	0.0066887	— 19.6	15 43 44.59
26	207	123 39 47.9	39 25.0	143.32	0.50	0.0066410	20.1	15 39 48.67
27	208	124 37 7.8	36 44.8	143.34	0.52	0.0065920	20.7	15 35 52.76
28	209	125 34 28.4	34 5.2	143.38	— 0.50	0.0065416	— 21.3	15 31 56.86
29	210	126 31 49.8	31 26.4	143.41	0.46	0.0064899	21.8	15 28 0.94
30	211	127 29 12.2	28 48.6	143.45	0.39	0.0064369	22.4	15 24 5.04
31	212	128 26 35.5	26 11.8	143.49	0.29	0.0063826	22.9	15 20 9.12
32	213	129 23 59.9	23 36.0	143.54	— 0.17	0.0063270	— 23.5	15 16 13.21
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 th .								
Diff. for 1 Hour, — 9 ^m .8296. (Table II.)								

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 2.7	15' 6.2	55' 6.2	+1.02	55' 19.0	+1.11	^h 14 ^m 23.7	^m 2.02	^d 17.3
2	15 9.9	15 14.0	55 32.8	1.20	55 47.7	1.29	15 11.1	1.93.	18.3
3	15 18.3	15 23.3	56 3.7	1.38	56 20.7	1.46	15 56.6	1.87	19.3
4	15 27.9	15 33.0	56 38.7	+1.54	56 57.6	+1.62	16 41.0	1.84	20.3
5	15 38.4	15 44.1	57 17.5	1.69	57 38.1	1.74	17 25.5	1.87	21.3
6	15 49.8	15 55.7	57 59.3	1.78	58 20.9	1.80	18 11.3	1.96	22.3
7	16 1.6	16 7.4	58 42.5	+1.78	59 3.7	+1.74	19 0.0	2.11	23.3
8	16 13.0	16 18.2	59 24.3	1.67	59 43.7	1.54	19 53.1	2.32	24.3
9	16 23.0	16 27.3	60 1.3	1.38	60 16.8	1.18	20 51.4	2.54	25.3
10	16 30.7	16 33.3	60 29.5	+0.93	60 39.1	+0.65	21 54.9	2.73	26.3
11	16 34.9	16 35.5	60 45.0	+0.33	60 46.9	-0.01	23 1.3	2.79	27.3
12	16 34.9	16 33.1	60 44.7	-0.36	60 38.3	0.70	δ		28.3
13	16 30.3	16 26.4	60 27.8	-1.03	60 13.5	-1.34	0 7.3	2.69	29.3
14	16 21.5	16 15.8	59 55.6	1.62	59 34.7	1.84	1 9.4	2.48	1.0
15	16 9.5	16 2.6	59 11.4	2.02	58 46.2	2.15	2 5.9	2.23	2.0
16	15 55.4	15 48.1	58 19.8	-2.23	57 52.8	-2.25	2 56.9	2.02	3.0
17	15 40.7	15 33.5	57 25.8	2.23	56 59.2	2.18	3 43.4	1.87	4.0
18	15 26.5	15 19.9	56 33.6	2.08	56 9.4	1.94	4 26.9	1.77	5.0
19	15 13.8	15 8.2	55 47.0	-1.78	55 26.5	-1.62	5 8.9	1.73	6.0
20	15 3.2	14 58.9	55 8.2	1.43	54 52.2	1.23	5 50.5	1.74	7.0
21	14 55.2	14 52.2	54 38.6	1.03	54 27.6	0.82	6 33.0	1.80	8.0
22	14 49.8	14 48.2	54 19.0	-0.62	54 12.8	-0.42	7 17.3	1.89	9.0
23	14 47.1	14 46.7	54 9.0	-0.22	54 7.5	-0.03	8 4.0	2.00	10.0
24	14 46.9	14 47.6	54 8.2	+0.14	54 10.9	+0.30	8 53.3	2.10	11.0
25	14 48.9	14 50.6	54 15.5	+0.45	54 21.8	+0.59	9 44.6	2.17	12.0
26	14 52.8	14 55.3	54 29.7	0.71	54 38.9	0.82	10 37.0	2.19	13.0
27	14 58.1	15 1.3	54 49.4	0.92	55 0.9	0.99	11 29.2	2.15	14.0
28	15 4.6	15 8.2	55 13.2	+1.06	55 26.3	+1.11	12 19.9	2.07	15.0
29	15 11.9	15 15.7	55 39.9	1.16	55 54.1	1.20	13 8.4	1.98	16.0
30	15 19.7	15 23.7	56 8.6	1.22	56 23.3	1.24	13 55.0	1.90	17.0
31	15 27.8	15 31.9	56 38.3	1.26	56 53.5	1.27	14 39.9	1.86	18.0
32	15 36.1	15 40.2	57 8.8	+1.28	57 24.1	+1.28	15 24.3	1.85	19.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 1.					MONDAY 3.				
0	^h 20 ^m 34 ^s 18.87	2.1666	S. 23° 50' 53.2	8.101	0	^h 22 ^m 14 ^s 24.68	2.0007	S. 15° 20' 38.2	12.887
1	20 36 28.77	2.1633	23 42 43.6	8.918	1	22 16 25.18	2.0071	15 7 46.3	12.903
2	20 38 38.47	2.1599	23 34 27.0	8.335	2	22 18 25.53	2.0045	14 54 49.8	12.980
3	20 40 47.96	2.1565	23 26 3.4	8.459	3	22 20 25.72	2.0019	14 41 48.7	13.056
4	20 42 57.25	2.1532	23 17 32.8	8.588	4	22 22 25.76	1.9995	14 28 43.1	13.199
5	20 45 6.34	2.1498	23 8 55.3	8.683	5	22 24 25.66	1.9972	14 15 33.2	13.302
6	20 47 15.23	2.1464	23 0 10.8	8.798	6	22 26 25.42	1.9948	14 2 18.9	13.374
7	20 49 23.91	2.1430	22 51 19.5	8.911	7	22 28 25.04	1.9925	13 49 0.3	13.346
8	20 51 32.38	2.1395	22 42 21.5	9.023	8	22 30 24.52	1.9902	13 35 37.4	13.416
9	20 53 40.65	2.1361	22 33 16.7	9.135	9	22 32 23.86	1.9880	13 22 10.4	13.484
10	20 55 48.71	2.1325	22 24 5.3	9.246	10	22 34 23.08	1.9859	13 8 39.3	13.553
11	20 57 56.55	2.1290	22 14 47.2	9.357	11	22 36 22.17	1.9838	12 55 4.0	13.622
12	21 0 4.19	2.1256	22 5 22.5	9.466	12	22 38 21.13	1.9817	12 41 24.7	13.688
13	21 2 11.62	2.1221	21 55 51.3	9.574	13	22 40 19.97	1.9796	12 27 41.5	13.753
14	21 4 18.84	2.1186	21 46 13.6	9.689	14	22 42 18.70	1.9779	12 13 54.3	13.818
15	21 6 25.85	2.1151	21 36 29.4	9.790	15	22 44 17.32	1.9761	12 0 3.3	13.882
16	21 8 32.65	2.1116	21 26 38.8	9.896	16	22 46 15.83	1.9743	11 46 8.5	13.944
17	21 10 39.24	2.1081	21 16 41.9	10.001	17	22 48 14.23	1.9725	11 32 10.0	14.006
18	21 12 45.62	2.1046	21 6 38.7	10.106	18	22 50 12.53	1.9708	11 18 7.8	14.067
19	21 14 51.79	2.1011	20 56 29.2	10.209	19	22 52 10.73	1.9690	11 4 2.0	14.127
20	21 16 57.75	2.0977	20 46 13.6	10.311	20	22 54 8.84	1.9677	10 49 52.6	14.187
21	21 19 3.51	2.0942	20 35 51.9	10.413	21	22 56 6.86	1.9663	10 35 39.6	14.245
22	21 21 9.06	2.0907	20 25 24.1	10.514	22	22 58 4.60	1.9649	10 21 23.2	14.302
23	21 23 14.40	2.0873	S. 20 14 50.2	10.615	23	23 0 2.65	1.9635	S. 10 7 3.4	14.358
SUNDAY 2.					TUESDAY 4.				
0	21 25 19.54	2.0839	S. 20 4 10.3	10.714	0	23 2 0.42	1.9622	S. 9 52 40.2	14.414
1	21 27 24.47	2.0805	19 53 24.5	10.813	1	23 3 58.12	1.9611	9 38 13.7	14.468
2	21 29 29.20	2.0771	19 42 32.9	10.909	2	23 5 55.75	1.9600	9 23 44.0	14.521
3	21 31 33.72	2.0737	19 31 35.4	11.007	3	23 7 53.32	1.9590	9 9 11.2	14.574
4	21 33 38.04	2.0704	19 20 32.1	11.103	4	23 9 50.83	1.9580	8 54 35.2	14.626
5	21 35 42.16	2.0671	19 9 23.1	11.197	5	23 11 48.28	1.9571	8 39 56.1	14.678
6	21 37 46.09	2.0638	18 58 8.5	11.290	6	23 13 45.68	1.9563	8 25 14.1	14.735
7	21 39 49.82	2.0605	18 46 48.3	11.383	7	23 15 43.03	1.9556	8 10 29.1	14.774
8	21 41 53.35	2.0572	18 35 22.5	11.476	8	23 17 40.34	1.9548	7 55 41.2	14.822
9	21 43 56.68	2.0539	18 23 51.2	11.567	9	23 19 37.61	1.9542	7 40 50.4	14.870
10	21 45 59.82	2.0507	18 12 14.5	11.657	10	23 21 34.84	1.9537	7 25 56.8	14.916
11	21 48 2.77	2.0476	18 0 32.3	11.747	11	23 23 32.05	1.9533	7 11 0.5	14.960
12	21 50 5.53	2.0445	17 48 44.8	11.835	12	23 25 29.23	1.9528	6 56 1.6	15.004
13	21 52 8.11	2.0414	17 36 52.1	11.923	13	23 27 26.39	1.9526	6 41 0.1	15.047
14	21 54 10.50	2.0383	17 24 54.1	12.010	14	23 29 23.54	1.9524	6 25 56.0	15.089
15	21 56 12.70	2.0352	17 12 50.9	12.096	15	23 31 20.67	1.9522	6 10 49.4	15.130
16	21 58 14.72	2.0322	17 0 42.6	12.181	16	23 33 17.80	1.9520	5 55 40.4	15.170
17	22 0 16.57	2.0293	16 48 29.2	12.265	17	23 35 14.93	1.9518	5 40 29.0	15.209
18	22 2 18.24	2.0264	16 36 10.8	12.348	18	23 37 12.06	1.9513	5 25 15.3	15.247
19	22 4 19.74	2.0235	16 23 47.5	12.430	19	23 39 9.20	1.9514	5 9 59.4	15.284
20	22 6 21.06	2.0206	16 11 19.2	12.512	20	23 41 6.35	1.9517	4 54 41.2	15.321
21	22 8 22.21	2.0178	15 58 46.1	12.593	21	23 43 3.52	1.9531	4 39 20.9	15.355
22	22 10 23.20	2.0151	15 46 8.2	12.672	22	23 45 0.72	1.9535	4 23 58.6	15.389
23	22 12 24.02	2.0124	15 33 25.5	12.750	23	23 46 57.94	1.9539	4 8 34.2	15.422
24	22 14 24.68	2.0097	S. 15 20 38.2	1.9697	24	23 48 55.19	1.9545	S. 3 53 7.9	15.454

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 5.					FRIDAY 7.				
0	23 48 55.19	1.9545	S. 3° 53' 7.9"	15.454	0	1 25 7.45	2.0899	N. 8° 44' 42.1"	15.658
1	23 50 52.48	1.9552	3 37 39.7	15.486	1	1 27 13.00	2.0950	9 0 20.8	15.631
2	23 52 49.82	1.9560	3 22 9.6	15.516	2	1 29 18.85	2.1009	9 15 57.8	15.609
3	23 54 47.20	1.9568	3 6 37.8	15.544	3	1 31 25.02	2.1058	9 31 33.0	15.570
4	23 56 44.64	1.9576	2 51 4.3	15.572	4	1 33 31.52	2.1110	9 47 6.3	15.538
5	23 58 42.14	1.9588	2 35 29.1	15.599	5	1 35 38.34	2.1165	10 2 37.6	15.505
6	0 0 39.70	1.9589	2 19 52.4	15.625	6	1 37 45.50	2.1221	10 18 6.9	15.470
7	0 2 37.33	1.9611	2 4 14.1	15.650	7	1 39 53.00	2.1278	10 33 34.0	15.433
8	0 4 35.04	1.9624	1 48 34.4	15.673	8	1 42 0.84	2.1336	10 48 58.9	15.395
9	0 6 32.82	1.9637	1 32 53.3	15.696	9	1 44 9.03	2.1395	11 4 21.4	15.354
10	0 8 30.69	1.9652	1 17 10.9	15.717	10	1 46 17.58	2.1455	11 19 41.4	15.313
11	0 10 28.65	1.9668	1 1 27.2	15.738	11	1 48 26.49	2.1515	11 34 58.9	15.270
12	0 12 26.71	1.9685	0 45 42.3	15.758	12	1 50 35.76	2.1577	11 50 13.8	15.226
13	0 14 24.87	1.9702	0 29 56.2	15.777	13	1 52 45.41	2.1640	12 5 25.9	15.178
14	0 16 23.14	1.9720	S. 0 14 9.1	15.793	14	1 54 55.44	2.1703	12 20 35.2	15.130
15	0 18 21.51	1.9739	N. 0 1 39.0	15.809	15	1 57 5.85	2.1767	12 35 41.5	15.080
16	0 20 20.00	1.9759	0 17 28.0	15.824	16	1 59 16.65	2.1832	12 50 44.8	15.028
17	0 22 18.62	1.9780	0 33 17.9	15.838	17	2 1 27.84	2.1898	13 5 44.9	14.975
18	0 24 17.36	1.9801	0 49 8.6	15.851	18	2 3 39.43	2.1965	13 20 41.8	14.920
19	0 26 16.23	1.9824	1 5 0.0	15.863	19	2 5 51.42	2.2033	13 35 35.3	14.863
20	0 28 15.25	1.9849	1 20 52.1	15.873	20	2 8 3.83	2.2102	13 50 25.3	14.804
21	0 30 14.42	1.9874	1 36 44.8	15.882	21	2 10 16.65	2.2172	14 5 11.8	14.744
22	0 32 13.74	1.9899	1 52 38.0	15.891	22	2 12 29.89	2.2243	14 19 54.6	14.688
23	0 34 13.21	1.9925	N. 2 8 31.7	15.898	23	2 14 43.55	2.2313	N. 14 34 33.6	14.618
THURSDAY 6.					SATURDAY 8.				
0	0 36 12.84	1.9952	N. 2 24 25.7	15.903	0	2 16 57.64	2.2384	N. 14 49 8.7	14.559
1	0 38 12.64	1.9981	2 40 20.0	15.908	1	2 19 12.16	2.2457	15 3 39.8	14.484
2	0 40 12.61	2.0010	2 56 14.6	15.913	2	2 21 27.12	2.2531	15 18 6.8	14.414
3	0 42 12.76	2.0040	3 12 9.4	15.913	3	2 23 42.53	2.2605	15 32 29.5	14.343
4	0 44 13.09	2.0073	3 28 4.2	15.914	4	2 25 58.38	2.2679	15 46 47.8	14.268
5	0 46 13.62	2.0105	3 43 59.1	15.914	5	2 28 14.68	2.2755	16 1 1.7	14.193
6	0 48 14.35	2.0138	3 59 53.9	15.913	6	2 30 31.44	2.2832	16 15 11.0	14.116
7	0 50 15.28	2.0173	4 15 48.6	15.910	7	2 32 48.66	2.2908	16 29 15.6	14.037
8	0 52 16.41	2.0206	4 31 43.1	15.906	8	2 35 6.34	2.2985	16 43 15.4	13.955
9	0 54 17.75	2.0242	4 47 37.3	15.900	9	2 37 24.48	2.3063	16 57 10.2	13.872
10	0 56 19.31	2.0279	5 3 31.1	15.893	10	2 39 43.09	2.3142	17 11 0.0	13.787
11	0 58 21.10	2.0317	5 19 24.5	15.886	11	2 42 2.18	2.3222	17 24 44.6	13.699
12	1 0 23.12	2.0357	5 35 17.4	15.877	12	2 44 21.75	2.3302	17 38 23.9	13.610
13	1 2 25.38	2.0397	5 51 9.7	15.866	13	2 46 41.80	2.3382	17 51 57.8	13.519
14	1 4 27.88	2.0437	6 7 1.3	15.854	14	2 49 2.33	2.3463	18 5 26.2	13.426
15	1 6 30.62	2.0478	6 22 52.2	15.841	15	2 51 23.35	2.3544	18 18 48.9	13.330
16	1 8 33.61	2.0521	6 38 42.2	15.826	16	2 53 44.86	2.3627	18 32 5.8	13.233
17	1 10 36.87	2.0566	6 54 31.3	15.810	17	2 56 6.87	2.3709	18 45 16.8	13.133
18	1 12 40.40	2.0611	7 10 19.4	15.792	18	2 58 29.37	2.3792	18 58 21.8	13.033
19	1 14 44.20	2.0657	7 26 6.4	15.773	19	3 0 52.37	2.3875	19 11 20.6	12.938
20	1 16 48.28	2.0703	7 41 52.2	15.753	20	3 3 15.87	2.3958	19 24 13.1	12.833
21	1 18 52.63	2.0749	7 57 36.8	15.732	21	3 5 39.87	2.4042	19 36 59.3	12.715
22	1 20 57.27	2.0798	8 13 20.0	15.708	22	3 8 4.38	2.4127	19 49 38.9	12.604
23	1 23 2.21	2.0848	8 29 1.8	15.684	23	3 10 29.40	2.4212	20 2 11.8	12.492
24	1 25 7.45	2.0899	N. 8 44 42.1	15.658	24	3 12 54.92	2.4296	N. 20 14 38.0	12.378

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 9.					TUESDAY 11.				
0	3 12 54.92	2.4296	N.20 14' 38.0	12.378	0	5 18 47.28	2.7996	N.27 17' 14.3	4.487
1	3 15 20.95	2.4381	20 26 57.2	12.962	1	5 21 34.38	2.7971	27 21 37.3	4.260
2	3 17 47.49	2.4467	20 39 9.4	12.143	2	5 24 21.73	2.7919	27 25 47.9	4.073
3	3 20 14.55	2.4552	20 51 14.4	12.022	3	5 27 9.32	2.7951	27 29 46.1	3.895
4	3 22 42.12	2.4637	21 3 12.1	11.900	4	5 29 57.14	2.7986	27 33 31.8	3.656
5	3 25 10.19	2.4722	21 15 2.4	11.775	5	5 32 45.18	2.8023	27 37 4.8	3.444
6	3 27 38.78	2.4807	21 26 45.1	11.647	6	5 35 33.42	2.8056	27 40 25.1	3.233
7	3 30 7.88	2.4892	21 38 20.1	11.518	7	5 38 21.85	2.8086	27 43 32.7	3.021
8	3 32 37.49	2.4978	21 49 47.3	11.387	8	5 41 10.45	2.8114	27 46 27.6	2.808
9	3 35 7.62	2.5064	22 1 6.5	11.253	9	5 43 59.22	2.8141	27 49 9.7	2.594
10	3 37 38.26	2.5149	22 12 17.6	11.117	10	5 46 48.14	2.8164	27 51 38.9	2.380
11	3 40 9.41	2.5234	22 23 20.5	10.979	11	5 49 37.19	2.8186	27 53 55.3	2.166
12	3 42 41.07	2.5319	22 34 15.1	10.839	12	5 52 26.37	2.8206	27 55 58.8	1.950
13	3 45 13.24	2.5403	22 45 1.2	10.697	13	5 55 15.66	2.8223	27 57 49.3	1.733
14	3 47 45.91	2.5488	22 55 38.7	10.552	14	5 58 5.04	2.8237	27 59 26.8	1.517
15	3 50 19.09	2.5572	23 6 7.5	10.406	15	6 0 54.50	2.8248	28 0 51.3	1.300
16	3 52 52.77	2.5655	23 16 27.4	10.257	16	6 3 44.02	2.8258	28 2 2.8	1.083
17	3 55 26.95	2.5738	23 26 38.3	10.107	17	6 6 33.60	2.8267	28 3 1.3	0.866
18	3 58 1.63	2.5821	23 36 40.2	9.954	18	6 9 23.22	2.8272	28 3 46.7	0.648
19	4 0 36.80	2.5903	23 46 32.8	9.799	19	6 12 12.86	2.8274	28 4 19.1	0.431
20	4 3 12.46	2.5984	23 56 16.1	9.642	20	6 15 2.51	2.8275	28 4 38.4	+ 0.213
21	4 5 48.61	2.6065	24 5 49.9	9.483	21	6 17 52.16	2.8273	28 4 44.6	- 0.005
22	4 8 25.24	2.6145	24 15 14.1	9.322	22	6 20 41.79	2.8268	28 4 37.8	0.222
23	4 11 2.35	2.6225	N.24 24 28.5	9.158	23	6 23 31.38	2.8262	N.28 4 17.9	0.440
MONDAY 10.					WEDNESDAY 12.				
0	4 13 39.94	2.6304	N.24 33 33.1	8.993	0	6 26 20.93	2.8259	N.28 3 45.0	0.656
1	4 16 18.00	2.6389	24 42 27.7	8.836	1	6 29 10.41	2.8240	28 2 59.0	0.875
2	4 18 56.52	2.6458	24 51 12.2	8.657	2	6 31 59.81	2.8227	28 2 0.0	1.091
3	4 21 35.50	2.6534	24 59 46.5	8.466	3	6 34 49.13	2.8211	28 0 48.1	1.307
4	4 24 14.93	2.6609	25 8 10.5	8.319	4	6 37 38.34	2.8199	27 59 23.2	1.523
5	4 26 54.81	2.6683	25 16 24.0	8.137	5	6 40 27.43	2.8171	27 57 45.4	1.739
6	4 29 35.13	2.6757	25 24 27.0	7.961	6	6 43 16.39	2.8147	27 55 54.6	1.954
7	4 32 15.89	2.6828	25 32 19.3	7.782	7	6 46 5.20	2.8122	27 53 50.9	2.168
8	4 34 57.07	2.6898	25 40 0.8	7.601	8	6 48 53.85	2.8094	27 51 34.4	2.381
9	4 37 38.67	2.6967	25 47 31.4	7.418	9	6 51 42.33	2.8064	27 49 5.2	2.594
10	4 40 20.68	2.7036	25 54 51.0	7.234	10	6 54 30.62	2.8032	27 46 23.2	2.806
11	4 43 3.10	2.7103	26 1 59.5	7.048	11	6 57 18.71	2.7997	27 43 28.5	3.017
12	4 45 45.92	2.7169	26 8 56.7	6.860	12	7 0 6.58	2.7960	27 40 21.2	3.227
13	4 48 29.13	2.7239	26 15 42.6	6.671	13	7 2 54.23	2.7921	27 37 1.3	3.436
14	4 51 12.71	2.7294	26 22 17.2	6.480	14	7 5 41.63	2.7879	27 33 28.9	3.644
15	4 53 56.66	2.7355	26 28 40.2	6.287	15	7 8 28.78	2.7837	27 29 44.0	3.852
16	4 56 40.97	2.7415	26 34 51.6	6.093	16	7 11 15.67	2.7792	27 25 46.7	4.058
17	4 59 25.64	2.7473	26 40 51.3	5.897	17	7 14 2.28	2.7744	27 21 37.1	4.263
18	5 2 10.65	2.7529	26 46 39.2	5.699	18	7 16 48.60	2.7695	27 17 15.2	4.467
19	5 4 55.99	2.7583	26 52 15.2	5.500	19	7 19 34.62	2.7643	27 12 41.1	4.668
20	5 7 41.65	2.7636	26 57 39.3	5.301	20	7 22 20.32	2.7590	27 7 55.0	4.868
21	5 10 27.62	2.7687	27 2 51.3	5.099	21	7 25 5.70	2.7535	27 2 56.9	5.068
22	5 13 13.89	2.7736	27 7 51.2	4.897	22	7 27 50.74	2.7478	26 57 46.8	5.267
23	5 16 0.45	2.7782	27 12 38.9	4.693	23	7 30 35.44	2.7420	26 52 24.9	5.463
24	5 18 47.28	2.7828	N.27 17 14.3	4.487	24	7 33 19.78	2.7359	N.26 46 51.3	5.658

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 13.					SATURDAY 15.				
0	7 33 19.78	2.7350	N.26° 46' 51.3"	5.658	0	9 35 34.49	2.3368	N.19° 6' 36.3"	12.713
1	7 36 3.75	2.7397	26 41 6.0	5.852	1	9 37 54.44	2.3381	18 53 50.7	12.807
2	7 38 47.35	2.7334	26 35 9.1	6.043	2	9 40 13.86	2.3193	18 40 59.5	12.899
3	7 41 30.56	2.7168	26 29 0.8	6.233	3	9 42 32.75	2.3105	18 28 2.8	12.990
4	7 44 13.37	2.7109	26 22 41.1	6.422	4	9 44 51.12	2.3019	18 15 0.7	13.078
5	7 46 55.78	2.7034	26 16 10.1	6.609	5	9 47 8.98	2.2933	18 1 53.4	13.165
6	7 49 37.78	2.6964	26 9 28.0	6.794	6	9 49 26.32	2.2847	17 48 40.9	13.250
7	7 52 19.35	2.6893	26 2 34.8	6.977	7	9 51 43.15	2.2762	17 35 23.4	13.332
8	7 55 0.49	2.6821	25 55 30.7	7.158	8	9 53 59.47	2.2678	17 22 1.1	13.412
9	7 57 41.20	2.6747	25 48 15.8	7.338	9	9 56 15.29	2.2595	17 8 34.0	13.490
10	8 0 21.46	2.6672	25 40 50.1	7.516	10	9 58 30.61	2.2512	16 55 2.3	13.566
11	8 3 1.26	2.6596	25 33 13.8	7.693	11	10 0 45.43	2.2429	16 41 26.1	13.641
12	8 5 40.61	2.6519	25 25 27.1	7.865	12	10 2 59.76	2.2347	16 27 45.4	13.713
13	8 8 19.49	2.6440	25 17 30.0	8.037	13	10 5 13.60	2.2266	16 14 0.5	13.783
14	8 10 57.89	2.6360	25 9 22.6	8.207	14	10 7 26.95	2.2185	16 0 11.4	13.852
15	8 13 35.81	2.6280	25 1 5.1	8.376	15	10 9 39.82	2.2105	15 46 18.2	13.919
16	8 16 13.25	2.6198	24 52 37.5	8.542	16	10 11 52.21	2.2026	15 32 21.1	13.984
17	8 18 50.19	2.6115	24 44 0.1	8.705	17	10 14 4.13	2.1948	15 18 20.2	14.047
18	8 21 26.63	2.6032	24 35 12.9	8.867	18	10 16 15.58	2.1870	15 4 15.5	14.108
19	8 24 2.57	2.5948	24 26 16.1	9.026	19	10 18 26.57	2.1793	14 50 7.2	14.167
20	8 26 38.01	2.5864	24 17 9.8	9.184	20	10 20 37.10	2.1717	14 35 55.4	14.225
21	8 29 12.94	2.5778	24 7 54.0	9.340	21	10 22 47.17	2.1641	14 21 40.2	14.281
22	8 31 47.35	2.5692	23 58 29.0	9.493	22	10 24 56.79	2.1567	14 7 21.7	14.335
23	8 34 21.24	2.5605	N.23 48 54.9	9.644	23	10 27 5.97	2.1493	N.13 53 0.0	14.387
FRIDAY 14.					SUNDAY 16.				
0	8 36 54.61	2.5518	N.23 39 11.7	9.793	0	10 29 14.70	2.1419	N.13 38 35.3	14.437
1	8 39 27.45	2.5430	23 29 19.7	9.939	1	10 31 23.00	2.1347	13 24 7.6	14.487
2	8 41 59.77	2.5349	23 19 19.0	10.084	2	10 33 30.87	2.1276	13 9 36.9	14.534
3	8 44 31.56	2.5263	23 9 9.6	10.227	3	10 35 38.31	2.1205	12 55 3.5	14.579
4	8 47 2.81	2.5164	22 58 51.7	10.367	4	10 37 45.33	2.1136	12 40 27.4	14.622
5	8 49 33.53	2.5076	22 48 25.5	10.505	5	10 39 51.94	2.1067	12 25 48.8	14.664
6	8 52 3.72	2.4987	22 37 51.1	10.641	6	10 41 58.13	2.0999	12 11 7.7	14.705
7	8 54 33.37	2.4896	22 27 8.6	10.775	7	10 44 3.92	2.0932	11 56 24.2	14.744
8	8 57 2.47	2.4805	22 16 18.1	10.907	8	10 46 9.31	2.0865	11 41 38.4	14.782
9	8 59 31.03	2.4715	22 5 19.8	11.036	9	10 48 14.30	2.0799	11 26 50.4	14.818
10	9 1 59.05	2.4624	21 54 13.8	11.163	10	10 50 18.90	2.0735	11 12 0.3	14.852
11	9 4 26.52	2.4533	21 43 0.3	11.288	11	10 52 23.12	2.0672	10 57 8.2	14.884
12	9 6 53.45	2.4443	21 31 39.3	11.410	12	10 54 26.96	2.0609	10 42 14.2	14.916
13	9 9 19.84	2.4353	21 20 11.1	11.530	13	10 56 30.43	2.0547	10 27 18.3	14.946
14	9 11 45.69	2.4263	21 8 35.7	11.649	14	10 58 33.53	2.0486	10 12 20.7	14.973
15	9 14 10.99	2.4172	20 56 53.2	11.765	15	11 0 36.26	2.0426	9 57 21.5	15.000
16	9 16 35.75	2.4082	20 45 3.9	11.879	16	11 2 38.64	2.0367	9 42 20.7	15.026
17	9 18 59.98	2.3992	20 33 7.8	11.991	17	11 4 40.67	2.0309	9 27 18.4	15.050
18	9 21 23.66	2.3902	20 21 5.0	12.101	18	11 6 42.35	2.0252	9 12 14.7	15.072
19	9 23 46.80	2.3812	20 8 55.7	12.208	19	11 8 43.69	2.0196	8 57 9.7	15.094
20	9 26 9.41	2.3722	19 56 40.1	12.313	20	11 10 44.70	2.0140	8 42 3.4	15.114
21	9 28 31.48	2.3634	19 44 18.2	12.416	21	11 12 45.37	2.0085	8 26 56.0	15.132
22	9 30 53.02	2.3545	19 31 50.2	12.517	22	11 14 45.72	2.0032	8 11 47.5	15.149
23	9 33 14.02	2.3456	19 19 16.2	12.616	23	11 16 45.76	1.9980	7 56 38.1	15.164
24	9 35 34.49	2.3368	N.19 6 36.3	12.713	24	11 18 45.48	1.9928	N. 7 41 27.8	15.179

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 17.					WEDNESDAY 19.				
0	11 18 45.48	1.9998	N. 7 41' 27.8"	15.179	0	12 50 12.27	1.8518	S. 4 22' 35.5"	14.617
1	11 20 44.89	1.9977	7 26 16.6	15.199	1	12 52 3.35	1.8510	4 37 11.5	14.583
2	11 22 44.00	1.9958	7 11 4.7	15.204	2	12 53 54.39	1.8503	4 51 45.4	14.548
3	11 24 42.82	1.9779	6 55 52.1	15.215	3	12 55 45.38	1.8496	5 6 17.2	14.513
4	11 26 41.35	1.9731	6 40 38.9	15.225	4	12 57 36.34	1.8491	5 20 46.9	14.478
5	11 28 39.59	1.9683	6 25 25.1	15.233	5	12 59 27.27	1.8486	5 35 14.5	14.442
6	11 30 37.55	1.9637	6 10 10.9	15.240	6	13 1 18.17	1.8482	5 49 39.9	14.404
7	11 32 35.24	1.9592	5 54 56.3	15.246	7	13 3 9.05	1.8478	6 4 3.0	14.368
8	11 34 32.66	1.9547	5 39 41.4	15.251	8	13 4 59.91	1.8476	6 18 23.8	14.327
9	11 36 29.81	1.9503	5 24 26.2	15.255	9	13 6 50.76	1.8474	6 32 42.2	14.287
10	11 38 26.70	1.9462	5 9 10.8	15.257	10	13 8 41.60	1.8473	6 46 58.2	14.247
11	11 40 23.35	1.9422	4 53 55.3	15.257	11	13 10 32.44	1.8472	7 1 11.8	14.207
12	11 42 19.76	1.9382	4 38 39.9	15.257	12	13 12 23.27	1.8473	7 15 22.9	14.164
13	11 44 15.93	1.9342	4 23 24.5	15.257	13	13 14 14.11	1.8475	7 29 31.5	14.122
14	11 46 11.86	1.9302	4 8 9.1	15.255	14	13 16 4.97	1.8477	7 43 37.5	14.078
15	11 48 7.55	1.9263	3 52 53.9	15.252	15	13 17 55.84	1.8480	7 57 40.9	14.034
16	11 50 3.02	1.9227	3 37 38.9	15.248	16	13 19 46.73	1.8483	8 11 41.6	13.990
17	11 51 58.28	1.9192	3 22 24.2	15.243	17	13 21 37.64	1.8487	8 25 39.7	13.946
18	11 53 53.32	1.9156	3 7 9.8	15.237	18	13 23 28.58	1.8492	8 39 35.1	13.900
19	11 55 48.15	1.9122	2 51 55.8	15.229	19	13 25 19.55	1.8496	8 53 27.7	13.853
20	11 57 42.78	1.9089	2 36 42.3	15.220	20	13 27 10.56	1.8505	9 7 17.4	13.805
21	11 59 37.22	1.9057	2 21 29.4	15.210	21	13 29 1.61	1.8513	9 21 4.3	13.757
22	12 1 31.47	1.9026	2 6 17.1	15.200	22	13 30 52.71	1.8521	9 34 48.3	13.708
23	12 3 25.53	1.8995	N. 1 51 5.4	15.189	23	13 32 43.86	1.8529	S. 9 48 29.3	13.659
TUESDAY 18.					THURSDAY 20.				
0	12 5 19.41	1.8965	N. 1 35 54.4	15.177	0	13 34 35.06	1.8538	S. 10 2 7.4	13.609
1	12 7 13.11	1.8937	1 20 44.2	15.163	1	13 36 26.32	1.8549	10 15 42.4	13.558
2	12 9 6.65	1.8909	1 5 34.8	15.149	2	13 38 17.65	1.8560	10 29 14.3	13.507
3	12 11 0.02	1.8882	0 50 26.3	15.134	3	13 40 9.04	1.8571	10 42 43.2	13.455
4	12 12 53.23	1.8856	0 35 18.7	15.118	4	13 42 0.50	1.8583	10 56 8.9	13.402
5	12 14 46.29	1.8832	0 20 12.1	15.102	5	13 43 52.04	1.8597	11 9 31.4	13.348
6	12 16 39.21	1.8808	N. 0 5 6.5	15.084	6	13 45 43.66	1.8610	11 22 50.7	13.294
7	12 18 31.98	1.8784	S. 0 9 58.0	15.065	7	13 47 35.36	1.8624	11 36 6.7	13.239
8	12 20 24.62	1.8761	0 25 1.3	15.045	8	13 49 27.15	1.8640	11 49 19.4	13.183
9	12 22 17.12	1.8739	0 40 3.4	15.024	9	13 51 19.04	1.8656	12 2 28.7	13.127
10	12 24 9.49	1.8718	0 55 4.2	15.003	10	13 53 11.02	1.8672	12 15 34.6	13.070
11	12 26 1.74	1.8699	1 10 3.7	14.981	11	13 55 3.10	1.8688	12 28 37.1	13.013
12	12 27 53.88	1.8681	1 25 1.9	14.958	12	13 56 55.28	1.8706	12 41 36.2	12.955
13	12 29 45.91	1.8662	1 39 58.7	14.934	13	13 58 47.57	1.8724	12 54 31.7	12.895
14	12 31 37.83	1.8644	1 54 54.0	14.908	14	14 0 39.97	1.8743	13 7 23.6	12.835
15	12 33 29.64	1.8627	2 9 47.7	14.883	15	14 2 32.49	1.8763	13 20 11.9	12.775
16	12 35 21.36	1.8612	2 24 39.9	14.857	16	14 4 25.13	1.8783	13 32 56.6	12.714
17	12 37 12.99	1.8597	2 39 30.5	14.829	17	14 6 17.89	1.8803	13 45 37.6	12.652
18	12 39 4.53	1.8583	2 54 19.4	14.801	18	14 8 10.77	1.8825	13 58 14.9	12.590
19	12 40 55.99	1.8571	3 9 6.6	14.773	19	14 10 3.79	1.8847	14 10 48.4	12.527
20	12 42 47.38	1.8559	3 23 52.1	14.743	20	14 11 56.94	1.8870	14 23 18.1	12.463
21	12 44 38.70	1.8548	3 38 35.8	14.712	21	14 13 50.23	1.8893	14 35 44.0	12.399
22	12 46 29.95	1.8537	3 53 17.6	14.681	22	14 15 43.66	1.8917	14 48 6.0	12.333
23	12 48 21.14	1.8527	4 7 57.5	14.649	23	14 17 37.23	1.8941	15 0 24.0	12.267
24	12 50 12.27	1.8518	S. 4 22 35.5	14.617	24	14 19 30.95	1.8966	S. 15 12 38.0	12.200

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 21.					SUNDAY 23.				
0	^h 14 ^m 19 ^s 30.95	1.8966	S. 15° 12' 38.0"	12.900	0	^h 15 ^m 54 ^s 18.80	2.0664	S. 23° 27' 44.4"	8.142
1	14 21 24.82	1.8968	15 24 48.0	12.133	1	15 56 22.91	2.0706	23 35 49.9	8.039
2	14 23 18.85	1.9018	15 36 54.0	12.066	2	15 58 27.27	2.0747	23 43 49.1	7.934
3	14 25 13.04	1.9045	15 48 55.9	11.997	3	16 0 31.87	2.0788	23 51 42.0	7.829
4	14 27 7.39	1.9072	16 0 53.6	11.927	4	16 2 36.72	2.0829	23 59 28.6	7.724
5	14 29 1.90	1.9099	16 12 47.1	11.857	5	16 4 41.82	2.0871	24 7 8.9	7.618
6	14 30 56.58	1.9127	16 24 36.4	11.787	6	16 6 47.17	2.0912	24 14 42.8	7.511
7	14 32 51.43	1.9156	16 36 21.5	11.715	7	16 8 52.76	2.0953	24 22 10.3	7.403
8	14 34 46.45	1.9185	16 48 2.2	11.642	8	16 10 58.60	2.0994	24 29 31.2	7.304
9	14 36 41.65	1.9215	16 59 38.5	11.568	9	16 13 4.69	2.1035	24 36 45.6	7.185
10	14 38 37.03	1.9246	17 11 10.4	11.495	10	16 15 11.02	2.1076	24 43 53.4	7.075
11	14 40 32.60	1.9277	17 22 37.9	11.421	11	16 17 17.60	2.1117	24 50 54.6	6.965
12	14 42 28.35	1.9308	17 34 0.9	11.346	12	16 19 24.43	2.1158	24 57 49.2	6.854
13	14 44 24.29	1.9339	17 45 19.4	11.270	13	16 21 31.50	2.1198	25 4 37.1	6.742
14	14 46 20.42	1.9372	17 56 33.3	11.193	14	16 23 38.81	2.1238	25 11 18.2	6.628
15	14 48 16.75	1.9404	18 7 42.6	11.116	15	16 25 46.36	2.1278	25 17 52.4	6.513
16	14 50 13.27	1.9437	18 18 47.2	11.038	16	16 27 54.15	2.1318	25 24 19.8	6.399
17	14 52 9.99	1.9471	18 29 47.1	10.959	17	16 30 2.18	2.1358	25 30 40.3	6.284
18	14 54 6.92	1.9505	18 40 42.3	10.880	18	16 32 10.45	2.1398	25 36 53.9	6.168
19	14 56 4.05	1.9539	18 51 32.7	10.799	19	16 34 18.96	2.1437	25 43 0.5	6.052
20	14 58 1.39	1.9573	19 2 18.2	10.718	20	16 36 27.70	2.1476	25 49 0.1	5.934
21	14 59 58.93	1.9608	19 12 58.8	10.636	21	16 38 36.67	2.1514	25 54 52.6	5.816
22	15 1 56.69	1.9644	19 23 34.5	10.554	22	16 40 45.87	2.1553	26 0 38.0	5.697
23	15 3 54.66	1.9680	S. 19° 34' 5.2"	10.471	23	16 42 55.30	2.1591	S. 26° 6' 16.2"	5.578
SATURDAY 22.					MONDAY 24.				
0	15 5 52.85	1.9717	S. 19° 44' 31.0"	10.387	0	16 45 4.96	2.1628	S. 26° 11' 47.3"	5.458
1	15 7 51.26	1.9753	19 54 51.7	10.309	1	16 47 14.84	2.1666	26 17 11.2	5.336
2	15 9 49.89	1.9790	20 5 7.2	10.216	2	16 49 24.95	2.1703	26 22 27.7	5.214
3	15 11 48.74	1.9827	20 15 17.6	10.130	3	16 51 35.28	2.1740	26 27 36.9	5.092
4	15 13 47.81	1.9864	20 25 22.8	10.043	4	16 53 45.83	2.1776	26 32 38.8	4.969
5	15 15 47.11	1.9902	20 35 22.7	9.955	5	16 55 56.59	2.1812	26 37 33.2	4.845
6	15 17 46.64	1.9941	20 45 17.4	9.867	6	16 58 7.57	2.1847	26 42 20.2	4.721
7	15 19 46.40	1.9979	20 55 6.8	9.777	7	17 0 18.76	2.1882	26 46 59.7	4.596
8	15 21 46.39	2.0018	21 4 50.7	9.687	8	17 2 30.15	2.1916	26 51 31.7	4.471
9	15 23 46.61	2.0057	21 14 29.2	9.597	9	17 4 41.75	2.1950	26 55 56.2	4.345
10	15 25 47.07	2.0097	21 24 2.3	9.505	10	17 6 53.55	2.1983	27 0 13.1	4.218
11	15 27 47.77	2.0136	21 33 29.8	9.412	11	17 9 5.55	2.2017	27 4 22.3	4.090
12	15 29 48.70	2.0175	21 42 51.7	9.318	12	17 11 17.75	2.2049	27 8 23.9	3.962
13	15 31 49.87	2.0216	21 52 8.0	9.225	13	17 13 30.14	2.2081	27 12 17.8	3.833
14	15 33 51.29	2.0256	22 1 18.7	9.131	14	17 15 42.72	2.2112	27 16 3.9	3.703
15	15 35 52.94	2.0295	22 10 23.7	9.036	15	17 17 55.49	2.2143	27 19 42.2	3.574
16	15 37 54.83	2.0336	22 19 23.0	8.939	16	17 20 8.44	2.2173	27 23 12.8	3.444
17	15 39 56.97	2.0377	22 28 16.4	8.842	17	17 22 21.56	2.2202	27 26 35.5	3.313
18	15 41 59.35	2.0417	22 37 4.0	8.744	18	17 24 34.86	2.2231	27 29 50.3	3.181
19	15 44 1.97	2.0458	22 45 45.7	8.646	19	17 26 48.33	2.2259	27 32 57.2	3.049
20	15 46 4.84	2.0499	22 54 21.5	8.547	20	17 29 1.97	2.2286	27 35 56.2	2.916
21	15 48 7.96	2.0541	23 2 51.3	8.447	21	17 31 15.77	2.2313	27 38 47.2	2.783
22	15 50 11.33	2.0582	23 11 15.1	8.346	22	17 33 29.73	2.2340	27 41 30.2	2.650
23	15 52 14.94	2.0623	23 19 32.8	8.244	23	17 35 43.85	2.2366	27 44 5.2	2.516
24	15 54 18.80	2.0664	S. 23° 27' 44.4"	8.142	24	17 37 58.12	2.2391	S. 27° 46' 32.1"	2.381

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 25.					THURSDAY 27.				
0	17 37 58.12	2.3391	S. 27° 46' 32.1"	2.381	0	19 26 45.75	2.2613	S. 27° 0' 28.5"	4.331
1	17 40 12.54	2.2415	27 48 50.9	2.246	1	19 29 1.38	2.2597	26 56 4.5	4.409
2	17 42 27.10	2.2438	27 51 1.6	2.111	2	19 31 16.91	2.2580	26 51 32.2	4.607
3	17 44 41.79	2.2460	27 53 4.2	1.975	3	19 33 32.34	2.2562	26 46 51.7	4.744
4	17 46 56.62	2.2482	27 54 58.6	1.838	4	19 35 47.66	2.2544	26 42 2.9	4.881
5	17 49 11.58	2.2503	27 56 44.8	1.702	5	19 38 2.87	2.2526	26 37 5.9	5.018
6	17 51 26.66	2.2523	27 58 22.9	1.566	6	19 40 17.97	2.2507	26 32 0.7	5.154
7	17 53 41.86	2.2543	27 59 52.7	1.428	7	19 42 32.95	2.2486	26 26 47.4	5.290
8	17 55 57.18	2.2562	28 1 14.2	1.289	8	19 44 47.80	2.2465	26 21 25.9	5.426
9	17 58 12.61	2.2580	28 2 27.4	1.151	9	19 47 2.53	2.2444	26 15 56.3	5.561
10	18 0 28.14	2.2597	28 3 32.4	1.013	10	19 49 17.13	2.2422	26 10 18.6	5.695
11	18 2 43.77	2.2613	28 4 29.0	0.874	11	19 51 31.59	2.2399	26 4 32.9	5.829
12	18 4 59.50	2.2629	28 5 17.3	0.735	12	19 53 45.91	2.2375	25 58 39.1	5.963
13	18 7 15.32	2.2644	28 5 57.2	0.596	13	19 56 0.09	2.2351	25 52 37.3	6.096
14	18 9 31.23	2.2657	28 6 28.8	0.457	14	19 58 14.12	2.2326	25 46 27.6	6.229
15	18 11 47.21	2.2670	28 6 52.0	0.317	15	20 0 28.00	2.2301	25 40 10.0	6.359
16	18 14 3.27	2.2682	28 7 6.8	0.176	16	20 2 41.73	2.2275	25 33 44.5	6.491
17	18 16 19.40	2.2693	28 7 13.1	- 0.035	17	20 4 55.30	2.2249	25 27 11.1	6.622
18	18 18 35.59	2.2703	28 7 11.0	+ 0.105	18	20 7 8.72	2.2222	25 20 29.9	6.752
19	18 20 51.84	2.2713	28 7 0.5	0.246	19	20 9 21.97	2.2194	25 13 40.9	6.881
20	18 23 8.15	2.2723	28 6 41.5	0.387	20	20 11 35.05	2.2167	25 6 44.2	7.010
21	18 25 24.52	2.2732	28 6 14.1	0.528	21	20 13 47.97	2.2138	24 59 39.7	7.139
22	18 27 40.93	2.2738	28 5 38.2	0.669	22	20 16 0.71	2.2109	24 52 27.5	7.268
23	18 29 57.37	2.2743	S. 28 4 53.8	0.811	23	20 18 13.28	2.2080	S. 24 45 7.8	7.399
WEDNESDAY 26.					FRIDAY 28.				
0	18 32 13.84	2.2748	S. 28 4 0.9	0.952	0	20 20 25.67	2.2050	S. 24 37 40.5	7.518
1	18 34 30.34	2.2753	28 2 59.5	1.094	1	20 22 37.88	2.2030	24 30 5.6	7.644
2	18 36 46.87	2.2757	28 1 49.6	1.235	2	20 24 49.91	2.1990	24 22 23.2	7.769
3	18 39 3.42	2.2759	28 0 31.3	1.376	3	20 27 1.76	2.1959	24 14 33.3	7.893
4	18 41 19.98	2.2760	27 59 4.5	1.518	4	20 29 13.42	2.1926	24 6 36.0	8.017
5	18 43 36.54	2.2761	27 57 29.1	1.660	5	20 31 24.89	2.1896	23 58 31.3	8.139
6	18 45 53.11	2.2761	27 55 45.3	1.801	6	20 33 36.17	2.1864	23 50 19.3	8.261
7	18 48 9.67	2.2760	27 53 53.0	1.943	7	20 35 47.26	2.1832	23 42 0.0	8.382
8	18 50 26.23	2.2758	27 51 52.2	2.085	8	20 37 58.15	2.1799	23 33 33.4	8.503
9	18 52 42.77	2.2755	27 49 42.8	2.227	9	20 40 8.85	2.1766	23 24 59.6	8.622
10	18 54 59.29	2.2752	27 47 24.9	2.368	10	20 42 19.35	2.1733	23 16 18.7	8.741
11	18 57 15.79	2.2748	27 44 58.6	2.509	11	20 44 29.65	2.1700	23 7 30.7	8.859
12	18 59 32.26	2.2743	27 42 23.8	2.651	12	20 46 39.75	2.1667	22 58 35.6	8.977
13	19 1 48.70	2.2738	27 39 40.5	2.792	13	20 48 49.65	2.1633	22 49 33.5	9.093
14	19 4 5.09	2.2732	27 36 48.8	2.932	14	20 50 59.34	2.1598	22 40 24.5	9.208
15	19 6 21.44	2.2721	27 33 48.6	3.073	15	20 53 8.83	2.1565	22 31 8.5	9.323
16	19 8 37.74	2.2719	27 30 40.0	3.214	16	20 55 18.12	2.1531	22 21 45.7	9.437
17	19 10 53.98	2.2709	27 27 22.9	3.355	17	20 57 27.20	2.1496	22 12 16.1	9.550
18	19 13 10.17	2.2699	27 23 57.4	3.495	18	20 59 36.07	2.1462	22 2 39.7	9.662
19	19 15 26.29	2.2681	27 20 23.5	3.635	19	21 1 44.74	2.1426	21 52 56.6	9.773
20	19 17 42.34	2.2669	27 16 41.2	3.774	20	21 3 53.20	2.1393	21 43 6.9	9.884
21	19 19 58.32	2.2657	27 12 50.6	3.913	21	21 6 1.45	2.1358	21 33 10.5	9.994
22	19 22 14.22	2.2643	27 8 51.6	4.053	22	21 8 9.49	2.1323	21 23 7.6	10.102
23	19 24 30.03	2.2628	27 4 44.2	4.192	23	21 10 17.32	2.1288	21 12 58.2	10.210
24	19 26 45.75	2.2613	S. 27 0 28.5	4.331	24	21 12 24.95	2.1254	S. 21 2 42.4	10.317

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 29.					MONDAY 31.				
0	21 12 24.95	2.1254	S. 21° 2' 42.4"	10.317	0	22 50 44.53	1.9845	S. 11° 2' 39.8"	14.398
1	21 14 32.37	2.1218	20 52 20.2	10.483	1	22 52 43.54	1.9897	10 48 20.1	14.356
2	21 16 39.57	2.1183	20 41 51.6	10.528	2	22 54 42.45	1.9809	10 33 57.0	14.413
3	21 18 46.57	2.1149	20 31 16.8	10.639	3	22 56 41.25	1.9791	10 19 30.5	14.469
4	21 20 53.36	2.1114	20 20 35.8	10.735	4	22 58 39.94	1.9774	10 5 0.7	14.523
5	21 22 59.94	2.1079	20 9 48.6	10.837	5	23 0 38.54	1.9758	9 50 27.7	14.577
6	21 25 6.31	2.1044	19 58 55.3	10.938	6	23 2 37.04	1.9742	9 35 51.5	14.629
7	21 27 12.47	2.1010	19 47 56.0	11.039	7	23 4 35.44	1.9727	9 21 12.2	14.681
8	21 29 18.43	2.0976	19 36 50.6	11.139	8	23 6 33.76	1.9713	9 6 29.8	14.732
9	21 31 24.18	2.0942	19 25 39.3	11.237	9	23 8 32.00	1.9700	8 51 44.4	14.781
10	21 33 29.73	2.0907	19 14 22.1	11.335	10	23 10 30.16	1.9687	8 36 56.1	14.829
11	21 35 35.07	2.0873	19 2 59.1	11.432	11	23 12 28.24	1.9674	8 22 4.9	14.877
12	21 37 40.21	2.0840	18 51 30.3	11.528	12	23 14 26.25	1.9663	8 7 10.9	14.923
13	21 39 45.15	2.0806	18 39 55.8	11.622	13	23 16 24.19	1.9652	7 52 14.2	14.968
14	21 41 49.88	2.0772	18 28 15.7	11.715	14	23 18 22.07	1.9641	7 37 14.8	15.012
15	21 43 54.41	2.0739	18 16 30.0	11.808	15	23 20 19.88	1.9631	7 22 12.8	15.054
16	21 45 58.75	2.0706	18 4 38.7	11.900	16	23 22 17.64	1.9622	7 7 8.3	15.096
17	21 48 2.89	2.0673	17 52 42.0	11.990	17	23 24 15.35	1.9615	6 52 1.2	15.138
18	21 50 6.83	2.0641	17 40 39.9	12.080	18	23 26 13.02	1.9608	6 36 51.7	15.178
19	21 52 10.58	2.0609	17 28 32.4	12.169	19	23 28 10.64	1.9601	6 21 39.9	15.216
20	21 54 14.14	2.0577	17 16 19.6	12.257	20	23 30 8.23	1.9595	6 6 25.8	15.254
21	21 56 17.50	2.0544	17 4 1.6	12.343	21	23 32 5.78	1.9589	5 51 9.4	15.291
22	21 58 20.67	2.0513	16 51 38.5	12.428	22	23 34 3.30	1.9585	5 35 50.9	15.326
23	22 0 23.66	2.0482	S. 16 39 10.2	12.514	23	23 36 0.80	1.9581	S. 5 20 30.3	15.361
SUNDAY 30.					TUESDAY, AUGUST 1.				
0	22 2 26.46	2.0451	S. 16 26 36.8	12.598	0	23 37 58.27	1.9578	S. 5 5 7.7	15.394
1	22 4 29.07	2.0421	16 13 58.4	12.681	PHASES OF THE MOON.				
2	22 6 31.51	2.0399	16 1 15.1	12.762					
3	22 8 33.77	2.0369	15 48 27.0	12.842					
4	22 10 35.85	2.0333	15 35 34.1	12.922					
5	22 12 37.76	2.0304	15 22 36.4	13.001					
6	22 14 39.50	2.0276	15 9 34.0	13.078					
7	22 16 41.07	2.0248	14 56 27.0	13.155					
8	22 18 42.47	2.0220	14 43 15.4	13.231					
9	22 20 43.71	2.0193	14 29 59.3	13.305					
10	22 22 44.78	2.0166	14 16 38.8	13.379					
11	22 24 45.70	2.0140	14 3 13.9	13.452					
12	22 26 46.46	2.0113	13 49 44.6	13.523					
13	22 28 47.06	2.0087	13 36 11.1	13.593					
14	22 30 47.51	2.0063	13 22 33.4	13.662					
15	22 32 47.82	2.0040	13 8 51.6	13.731					
16	22 34 47.99	2.0017	12 55 5.7	13.798					
17	22 36 48.02	1.9993	12 41 15.8	13.864					
18	22 38 47.91	1.9970	12 27 22.0	13.929					
19	22 40 47.66	1.9948	12 13 24.3	13.993					
20	22 42 47.28	1.9927	11 59 22.8	14.057					
21	22 44 46.78	1.9906	11 45 17.5	14.119					
22	22 46 46.15	1.9885	11 31 8.5	14.180					
23	22 48 45.40	1.9865	11 16 55.9	14.239					
24	22 50 44.53	1.9845	S. 11 2 39.8	14.298					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Spica W.	102° 19' 56"	2895	103° 52' 21"	2887	105° 24' 56"	2880	106° 57' 41"	2873
	Antares W.	56 26 2	2899	57 58 31	2885	59 31 9	2877	61 3 57	2869
	α Pegasi E.	52 19 17	3461	50 58 9	3479	49 37 21	3499	48 16 56	3522
	α Arietis E.	92 4 40	2945	90 33 18	2938	89 1 47	2930	87 30 6	2923
	JUPITER E.	107 19 46	2968	105 48 53	2961	104 17 51	2952	102 46 38	2945
2	Antares W.	68 50 28	2899	70 24 18	2891	71 58 19	2812	73 32 31	2803
	α Arietis E.	79 49 17	2893	78 16 37	2876	76 43 48	2869	75 10 49	2860
	JUPITER E.	95 8 4	2904	93 35 50	2894	92 3 24	2886	90 30 47	2876
	Aldebaran E.	110 16 27	2897	108 43 52	2877	107 11 4	2868	105 38 4	2859
3	Antares W.	81 26 30	2756	83 1 55	2747	84 37 33	2737	86 13 24	2727
	α Aquilæ W.	43 56 42	5030	44 53 14	4891	45 51 36	4784	46 51 42	4646
	α Arietis E.	67 23 14	2819	65 49 11	2811	64 14 58	2803	62 40 34	2795
	JUPITER E.	82 44 43	2829	81 10 53	2820	79 36 51	2810	78 2 36	2799
	Aldebaran E.	97 49 57	2809	96 15 41	2799	94 41 12	2789	93 6 30	2779
	SUN E.	131 34 25	3123	130 6 43	3110	128 38 46	3099	127 10 35	3087
4	Antares W.	94 16 4	2674	95 53 19	2662	97 30 50	2652	99 8 35	2640
	α Aquilæ W.	52 15 9	4181	53 23 53	4107	54 33 48	4038	55 44 50	3972
	α Arietis E.	54 45 55	2758	53 10 29	2747	51 34 52	2740	49 59 5	2733
	JUPITER E.	70 7 54	2746	68 32 15	2735	66 56 21	2723	65 20 12	2712
	Aldebaran E.	85 9 34	2726	83 33 29	2715	81 57 9	2704	80 20 35	2693
	SUN E.	119 46 0	3096	118 16 20	3014	116 46 24	3001	115 16 12	2989
5	α Aquilæ W.	61 55 6	3703	63 11 50	3657	64 29 23	3614	65 47 42	3575
	Fomalhaut W.	29 33 43	3489	30 54 27	3387	32 16 58	3309	33 41 7	3226
	α Arietis E.	41 58 1	2704	40 21 26	2701	38 44 47	2698	37 8 5	2696
	JUPITER E.	57 15 36	2653	55 37 53	2640	53 59 53	2629	52 21 37	2616
	Aldebaran E.	72 14 4	2638	70 36 1	2627	68 57 43	2616	67 19 10	2604
	SUN E.	107 41 12	2923	106 9 22	2909	104 37 14	2895	103 4 49	2881
6	α Aquilæ W.	72 29 33	3402	73 51 47	3374	75 14 33	3346	76 37 51	3320
	Fomalhaut W.	41 1 38	2946	42 32 59	2904	44 5 13	2864	45 38 18	2827
	JUPITER E.	44 6 2	2554	42 26 4	2541	40 45 48	2529	39 5 15	2517
	Aldebaran E.	59 2 36	2551	57 22 33	2540	55 42 15	2530	54 1 43	2520
	SUN E.	95 18 14	2811	93 44 0	2797	92 9 28	2782	90 34 37	2768
7	α Aquilæ W.	83 41 24	3210	85 7 21	3193	86 33 39	3176	88 0 17	3162
	Fomalhaut W.	53 34 48	2873	55 12 4	2847	56 49 55	2823	58 28 19	2809
	α Pegasi W.	36 6 2	3461	37 27 10	3364	38 50 8	3276	40 14 47	3197
	Aldebaran E.	45 35 50	2477	43 54 5	2471	42 12 11	2466	40 30 10	2462
	SUN E.	82 35 37	2696	80 58 52	2682	79 21 48	2668	77 44 25	2653
8	α Aquilæ W.	95 17 24	3106	96 45 26	3100	98 13 36	3095	99 41 52	3092
	Fomalhaut W.	66 48 1	2495	68 29 21	2477	70 11 7	2460	71 53 17	2443
	α Pegasi W.	47 39 5	2898	49 11 27	2859	50 44 48	2809	52 19 4	2799
	SUN E.	69 32 44	2585	67 53 28	2579	66 13 55	2559	64 34 4	2547
9	Fomalhaut W.	80 29 44	2370	82 14 2	2358	83 58 37	2346	85 43 29	2336
	α Pegasi W.	60 22 14	2619	62 0 53	2587	63 40 6	2563	65 19 52	2541
	SUN E.	56 10 37	2489	54 29 9	2479	52 47 26	2470	51 5 30	2460

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
1	Spica W.	108° 30' 35"	2885	110° 3' 39"	2887	111° 36' 53"	2849	113° 10' 17"	2841
	Antares W.	62 36 55	2889	64 10 3	2854	65 43 21	2846	67 16 49	2838
	α Pegasi E.	46 56 56	3648	45 37 25	3578	44 18 27	3611	43 0 5	3649
	α Arietis E.	85 58 16	2915	84 26 16	2907	82 54 6	2929	81 21 46	2922
	JUPITER E.	101 15 16	2937	99 43 44	2928	98 12 1	2920	96 40 8	2912
2	Antares W.	75 6 55	2795	76 41 30	2785	78 16 18	2775	79 51 18	2768
	α Arietis E.	73 37 39	2852	72 4 19	2844	70 30 48	2835	68 57 6	2828
	JUPITER E.	88 57 58	2868	87 24 58	2858	85 51 45	2848	84 18 20	2839
	Aldebaran E.	104 4 52	2848	102 31 27	2839	100 57 50	2829	99 24 0	2819
3	Antares W.	87 49 28	2716	89 25 46	2706	91 2 18	2696	92 39 4	2685
	α Aquilæ W.	47 53 27	4539	48 56 45	4439	50 1 31	4347	51 7 40	4261
	α Arietis E.	61 5 59	2787	59 31 14	2779	57 56 18	2771	56 21 12	2763
	JUPITER E.	76 28 7	2789	74 53 25	2779	73 18 29	2768	71 43 19	2758
	Aldebaran E.	91 31 34	2769	89 56 25	2758	88 21 2	2747	86 45 25	2737
	SUN E.	125 42 10	3075	124 13 30	3063	122 44 35	3051	121 15 25	3039
4	Antares W.	100 46 36	2699	102 24 52	2616	104 3 25	2604	105 42 14	2593
	α Aquilæ W.	56 56 57	3912	58 10 5	3855	59 24 11	3801	60 39 12	3750
	α Arietis E.	48 23 9	2796	46 47 4	2790	45 10 51	2714	43 34 30	2708
	JUPITER E.	63 43 48	2701	62 7 9	2689	60 30 14	2677	58 53 3	2665
	Aldebaran E.	78 43 46	2683	77 6 43	2672	75 29 25	2660	73 51 52	2649
	SUN E.	113 45 45	2976	112 15 2	2969	110 44 2	2949	109 12 45	2936
5	α Aquilæ W.	67 6 44	3536	68 26 28	3500	69 46 52	3466	71 7 54	3433
	Fomalhaut W.	35 6 45	3158	36 33 44	3098	38 1 56	3043	39 31 16	2993
	α Arietis E.	35 31 22	2698	33 54 40	2701	32 18 2	2705	30 41 29	2719
	JUPITER E.	50 43 4	2604	49 4 14	2591	47 25 7	2579	45 45 43	2568
	Aldebaran E.	65 40 21	2594	64 1 18	2583	62 21 59	2572	60 42 25	2561
	SUN E.	101 32 6	2967	99 59 5	2953	98 25 46	2939	96 52 9	2925
6	α Aquilæ W.	78 1 39	3295	79 25 56	3272	80 50 40	3250	82 15 50	3230
	Fomalhaut W.	47 12 11	2792	48 46 49	2760	50 22 9	2730	51 58 9	2701
	JUPITER E.	37 24 26	2505	35 43 20	2493	34 1 57	2482	32 20 18	2470
	Aldebaran E.	52 20 58	2510	50 39 59	2502	48 58 48	2493	47 17 25	2485
	SUN E.	88 59 27	2753	87 23 58	2739	85 48 10	2725	84 12 3	2710
7	α Aquilæ W.	89 27 12	3148	90 54 24	3135	92 21 51	3124	93 49 32	3114
	Fomalhaut W.	60 7 16	2576	61 46 44	2555	63 26 41	2534	65 7 7	2514
	α Pegasi W.	41 41 0	3125	43 8 39	3061	44 37 36	3009	46 7 46	2947
	Aldebaran E.	38 48 3	2459	37 5 52	2458	35 23 40	2458	33 41 28	2461
	SUN E.	76 6 42	2639	74 28 40	2626	72 50 20	2612	71 11 41	2599
8	α Aquilæ W.	101 10 11	3091	102 38 31	3083	104 6 49	3065	105 35 5	3068
	Fomalhaut W.	73 35 51	2496	75 18 48	2412	77 2 6	2397	78 45 45	2383
	α Pegasi W.	53 54 12	2733	55 30 8	2699	57 6 49	2668	58 44 12	2639
	SUN E.	62 53 56	2535	61 13 31	2522	59 32 49	2511	57 51 51	2499
9	Fomalhaut W.	87 28 36	2326	89 13 57	2317	90 59 32	2309	92 45 19	2301
	α Pegasi W.	67 0 8	2521	68 40 52	2502	70 22 3	2485	72 3 38	2469
	SUN E.	49 23 21	2452	47 41 0	2444	45 58 28	2436	44 15 45	2430

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
10	Fomalhaut W.	94° 31' 17"	9295	96° 17' 24"	9289	98° 3' 40"	9284	99° 50' 3"	9281
	α Pegasi W.	73 45 35	9454	75 27 53	9441	77 10 29	9439	78 53 22	9419
	α Arietis W.	30 17 26	9209	32 3 23	9275	33 49 59	9251	35 37 11	9231
	SUN E.	42 32 53	9494	40 49 53	9419	39 6 46	9415	37 23 33	9413
11	α Pegasi W.	87 30 52	9386	89 14 47	9383	90 58 46	9389	92 42 47	9382
	α Arietis W.	44 39 40	9161	46 29 7	9159	48 18 47	9144	50 8 39	9138
	SUN E.	28 47 6	9419	27 3 58	9426	25 21 0	9437	23 38 18	9451
15	SUN W.	27 10 15	9670	28 47 35	9681	30 24 41	9692	32 1 32	9704
	Spica E.	62 40 16	9294	60 54 8	9310	59 8 23	9326	57 23 2	9344
	Antares E.	108 33 40	9291	106 47 27	9307	105 1 38	9323	103 16 12	9339
16	SUN W.	40 1 18	9779	41 36 14	9795	43 10 49	9812	44 45 1	9829
	Spica E.	48 42 30	9431	46 59 39	9449	45 17 14	9467	43 35 14	9485
	Antares E.	94 35 8	9496	92 52 10	9443	91 9 37	9461	89 27 29	9479
17	SUN W.	52 30 21	9919	54 2 16	9938	55 33 47	9956	57 4 55	9973
	VENUS W.	31 57 9	3010	33 27 9	3028	34 56 47	3046	36 26 3	3065
	Spica E.	35 11 40	9577	33 32 14	9596	31 53 14	9615	30 14 40	9634
	Antares E.	81 3 5	9569	79 23 27	9586	77 44 13	9604	76 5 24	9622
18	SUN W.	64 34 59	3064	66 3 53	3081	67 32 26	3098	69 0 38	3114
	VENUS W.	43 46 49	3154	45 13 53	3171	46 40 37	3188	48 7 0	3206
	Regulus W.	32 16 10	9738	33 52 0	9751	35 27 32	9766	37 2 45	9779
	Antares E.	67 57 12	9707	66 20 42	9794	64 44 34	9741	63 8 48	9756
19	SUN W.	76 16 40	3195	77 42 55	3210	79 8 52	3225	80 34 32	3239
	VENUS W.	55 13 56	3287	56 38 23	3309	58 2 32	3317	59 26 24	3332
	Regulus W.	44 54 16	9849	46 27 40	9869	48 0 48	9875	49 33 39	9887
	Antares E.	55 15 5	9832	53 41 19	9846	52 7 51	9860	50 34 41	9873
	α Aquilæ E.	104 19 26	3793	103 3 3	3796	101 46 43	3799	100 30 27	3793
20	SUN W.	87 38 48	3305	89 2 54	3317	90 26 46	3328	91 50 25	3338
	VENUS W.	66 21 42	3396	67 44 1	3410	69 6 6	3421	70 27 59	3433
	Regulus W.	57 14 1	9946	58 45 22	9956	60 16 30	9966	61 47 25	9976
	Antares E.	42 52 57	9935	41 21 22	9946	39 50 1	9956	38 18 53	9966
	α Aquilæ E.	94 10 34	3768	92 54 58	3776	91 39 31	3786	90 24 14	3795
21	SUN W.	98 45 43	3386	100 8 15	3395	101 30 37	3409	102 52 51	3409
	VENUS W.	77 14 25	3480	78 35 11	3488	79 55 49	3496	81 16 18	3503
	Regulus W.	69 19 8	3018	70 48 58	3026	72 18 39	3032	73 48 12	3039
	SATURN W.	30 18 17	3035	31 47 46	3043	33 17 6	3049	34 46 18	3056
	α Aquilæ E.	84 10 30	3852	82 56 21	3865	81 42 26	3878	80 28 44	3892
22	SUN W.	109 42 8	3439	111 3 40	3443	112 25 8	3447	113 46 31	3450
	VENUS W.	87 56 56	3531	89 16 46	3535	90 36 32	3538	91 56 14	3542
	Regulus W.	81 14 10	3064	82 43 4	3067	84 11 54	3071	85 40 39	3073
	SATURN W.	42 10 30	3081	43 39 3	3085	45 7 31	3088	46 35 55	3091
	Spica W.	27 10 55	3069	28 39 43	3071	30 8 28	3073	31 37 10	3075
	α Aquilæ E.	74 23 59	3971	73 11 51	3990	72 0 2	4010	70 48 32	4029
	Fomalhaut E.	101 7 18	3959	99 42 18	3961	98 17 21	3963	96 52 26	3965

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
10	Fomalhaut W.	101° 36' 31"	9978	108° 23' 3"	9976	105° 9' 38"	9976	108° 56' 13"	9977
	α Pegasi W.	80 36 29	9410	82 19 50	9409	84 3 22	9396	85 47 3	9390
	α Arietis W.	37 24 53	9919	39 13 2	9196	41 1 35	9183	42 50 28	9170
	SUN E.	35 40 17	9411	33 56 58	9411	32 13 39	9419	30 30 21	9414
11	α Pegasi W.	94 26 48	9389	96 10 48	9385	97 54 44	9389	99 38 35	9394
	α Arietis W.	51 58 40	9133	53 48 49	9130	55 39 3	9196	57 29 22	9125
	SUN E.	21 55 56	9470	20 14 1	9495	18 32 41	9525	16 52 3	9560
15	SUN W.	33 38 7	9717	35 14 24	9739	36 50 22	9747	38 26 0	9769
	Spica E.	55 38 6	9361	53 53 35	9378	52 9 28	9395	50 25 46	9413
	Antares E.	101 31 10	9356	99 46 32	9373	98 2 19	9391	96 18 31	9408
16	SUN W.	46 18 51	9947	47 52 18	9985	49 25 22	9983	50 58 3	9901
	Spica E.	41 53 40	9504	40 12 32	9529	38 31 49	9540	36 51 32	9559
	Antares E.	87 45 46	9497	86 4 29	9515	84 23 36	9533	82 43 8	9551
17	SUN W.	58 35 41	9999	60 6 4	3010	61 36 4	3097	63 5 43	3046
	VENUS W.	37 54 56	3089	39 23 27	3101	40 51 36	3119	42 19 23	3136
	Spica E.	28 36 31	9653	26 58 48	9679	25 21 31	9699	23 44 40	9710
	Antares E.	74 26 59	9639	72 48 57	9657	71 11 19	9674	69 34 4	9691
18	SUN W.	70 28 30	3131	71 56 2	3148	73 23 14	3163	74 50 7	3180
	VENUS W.	49 33 2	3923	50 58 44	3939	52 24 7	3955	53 49 11	3971
	Regulus W.	38 37 40	3794	40 12 16	3808	41 46 34	3891	43 20 34	3935
	Antares E.	61 33 23	3779	59 58 18	3788	58 23 34	3803	56 49 10	3818
19	SUN W.	81 59 55	3953	83 25 1	3966	84 49 52	3980	86 14 27	3999
	VENUS W.	60 49 59	3345	62 13 18	3359	63 36 21	3379	64 59 9	3386
	Regulus W.	51 6 14	3900	52 38 33	3919	54 10 37	3994	55 42 26	3935
	Antares E.	49 1 48	9886	47 29 11	9899	45 56 51	9911	44 24 46	9994
	α Aquilæ E.	99 14 15	3739	97 58 9	3746	96 42 10	3759	95 26 18	3760
20	SUN W.	93 13 52	3350	94 37 6	3359	96 0 9	3369	97 23 1	3378
	VENUS W.	71 49 38	3443	73 11 6	3453	74 32 23	3463	75 53 29	3471
	Regulus W.	63 18 8	9985	64 48 39	9994	66 18 59	3002	67 49 9	3011
	Antares E.	36 47 58	9976	35 17 15	9985	33 46 44	9994	32 16 24	3003
	α Aquilæ E.	89 9 7	3805	87 54 10	3817	86 39 25	3827	85 24 51	3840
21	SUN W.	104 14 57	3416	105 36 55	3493	106 58 46	3499	108 20 30	3434
	VENUS W.	82 36 39	3509	83 56 53	3515	85 17 0	3521	86 37 1	3596
	Regulus W.	75 17 37	3044	76 46 55	3050	78 16 6	3055	79 45 11	3080
	SATURN W.	36 15 22	3069	37 44 18	3067	39 13 8	3072	40 41 52	3077
	α Aquilæ E.	79 15 16	3907	78 2 3	3922	76 49 6	3937	75 36 24	3954
22	SUN W.	115 7 51	3454	116 29 7	3456	117 50 20	3458	119 11 31	3461
	VENUS W.	93 15 52	3545	94 35 27	3546	95 55 0	3548	97 14 31	3550
	Regulus W.	87 9 21	3076	88 38 0	3078	90 6 36	3079	91 35 11	3081
	SATURN W.	48 4 16	3093	49 32 34	3096	51 0 49	3097	52 29 2	3099
	Spica W.	33 5 50	3077	34 34 28	3078	36 3 4	3079	37 31 39	3079
	α Aquilæ E.	69 37 21	4050	68 26 31	4074	67 16 4	4097	66 5 59	4129
	Fomalhaut E.	95 27 33	3966	94 2 42	3967	92 37 52	3968	91 13 3	3970

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Dist.	IIIh.	P. L. of Dist.	VIh.	P. L. of Dist.	IXh.	P. L. of Dist.
23	VENUS W.	98° 34' 0"	3551	99° 53' 28"	3551	101° 12' 56"	3551	102° 32' 24"	3551
	Regulus W.	93° 3' 44"	3069	94° 32' 16"	3069	96° 0' 48"	3069	97° 29' 20"	3069
	SATURN W.	53° 57' 13"	3100	55° 25' 23"	3100	56° 53' 33"	3100	58° 21' 43"	3100
	Spica W.	39° 0' 14"	3080	40° 28' 48"	3080	41° 57' 22"	3080	43° 25' 56"	3078
	α Aquilæ E.	64° 56' 19"	4150	63° 47' 5"	4177	62° 38' 17"	4207	61° 29' 58"	4239
	Fomalhaut E.	89° 48' 16"	3870	88° 23' 30"	3870	86° 58' 44"	3871	85° 33' 59"	3872
24	SATURN W.	65° 42' 48"	3099	67° 11' 7"	3099	68° 39' 30"	3087	70° 7' 56"	3083
	Spica W.	50° 49' 12"	3069	52° 17' 59"	3067	53° 46' 49"	3064	55° 15' 43"	3060
	α Aquilæ E.	55° 56' 34"	4438	54° 51' 47"	4486	53° 47' 43"	4540	52° 44' 26"	4596
	Fomalhaut E.	78° 30' 20"	3873	77° 5' 37"	3873	75° 40' 53"	3873	74° 16' 9"	3872
	α Pegasi E.	99° 33' 12"	3409	98° 10' 58"	3396	96° 48' 37"	3391	95° 26' 10"	3386
25	SATURN W.	77° 31' 13"	3063	79° 0' 8"	3057	80° 29' 10"	3059	81° 58' 18"	3047
	Spica W.	62° 41' 22"	3039	64° 10' 46"	3034	65° 40' 17"	3030	67° 9' 54"	3023
	α Aquilæ E.	47° 41' 40"	4987	46° 44' 19"	5063	45° 48' 13"	5168	44° 53' 27"	5281
	Fomalhaut E.	67° 12' 31"	3974	65° 47' 49"	3974	64° 23' 7"	3975	62° 58' 26"	3976
	α Pegasi E.	88° 32' 35"	3363	87° 9' 36"	3359	85° 46' 33"	3355	84° 23' 25"	3351
26	SATURN W.	89° 25' 43"	3017	90° 55' 35"	3009	92° 25' 36"	3009	93° 55' 46"	2996
	Spica W.	74° 39' 49"	2999	76° 10' 12"	2995	77° 40' 43"	2978	79° 11' 23"	2972
	Antares W.	28° 45' 17"	2999	30° 15' 40"	2995	31° 46' 12"	2977	33° 16' 53"	2976
	Fomalhaut E.	55° 55' 36"	3990	54° 31' 13"	3995	53° 6' 56"	3300	51° 42' 45"	3306
	α Pegasi E.	77° 26' 45"	3336	76° 3' 15"	3333	74° 39' 42"	3339	73° 16' 7"	3339
27	Spica W.	86° 47' 0"	2933	88° 18' 37"	2926	89° 50' 23"	2917	91° 22' 20"	2909
	Antares W.	40° 52' 38"	2939	42° 24' 16"	2934	43° 56' 5"	2916	45° 28' 4"	2908
	Fomalhaut E.	44° 44' 25"	3395	43° 21' 28"	3389	41° 58' 51"	3409	40° 36' 37"	3425
	α Pegasi E.	66° 17' 57"	3331	64° 54' 21"	3333	63° 30' 48"	3336	62° 7' 18"	3339
	α Arietis E.	107° 26' 47"	2996	105° 56' 17"	2978	104° 25' 37"	2969	102° 54' 45"	2961
28	Spica W.	99° 4' 41"	2968	100° 37' 41"	2959	102° 10' 52"	2951	103° 44' 14"	2942
	Antares W.	53° 10' 36"	2966	54° 43' 39"	2957	56° 16' 53"	2948	57° 50' 18"	2940
	α Pegasi E.	55° 11' 21"	3377	53° 48' 38"	3390	52° 26' 10"	3404	51° 3' 58"	3430
	α Arietis E.	95° 17' 42"	2916	93° 45' 44"	2907	92° 13' 34"	2899	90° 41' 14"	2890
29	Antares W.	65° 40' 13"	2796	67° 14' 46"	2787	68° 49' 31"	2779	70° 24' 27"	2769
	α Arietis E.	82° 56' 44"	2847	81° 23' 17"	2839	79° 49' 40"	2831	78° 15' 52"	2822
	JUPITER E.	102° 57' 34"	2856	101° 24' 19"	2848	99° 50' 53"	2838	98° 17' 15"	2829
	Aldebaran E.	113° 25' 19"	2959	111° 52' 7"	2949	110° 18' 43"	2939	108° 45' 6"	2929
30	Antares W.	78° 22' 3"	2725	79° 58' 9"	2716	81° 34' 27"	2707	83° 10' 57"	2699
	α Aquilæ W.	42° 5' 48"	2996	42° 58' 57"	5131	43° 54' 11"	4979	44° 51' 23"	4841
	α Arietis E.	70° 24' 14"	2783	68° 49' 24"	2775	67° 14' 23"	2767	65° 39' 12"	2760
	JUPITER E.	90° 26' 9"	2784	88° 51' 20"	2775	87° 16' 20"	2766	85° 41' 8"	2757
	Aldebaran E.	100° 53' 49"	2781	99° 18' 56"	2773	97° 43' 51"	2763	96° 8' 34"	2753
31	Antares W.	91° 16' 21"	2653	92° 54' 1"	2646	94° 31' 53"	2636	96° 9' 57"	2629
	α Aquilæ W.	50° 3' 10"	4301	51° 10' 2"	4217	52° 18' 12"	4139	53° 27' 36"	4068
	α Arietis E.	57° 41' 1"	2797	56° 4' 57"	2791	54° 28' 45"	2716	52° 52' 26"	2710
	JUPITER E.	77° 42' 12"	2713	76° 5' 50"	2704	74° 29' 16"	2695	72° 52' 30"	2687
	Aldebaran E.	88° 9' 11"	2710	86° 32' 44"	2701	84° 56' 5"	2692	83° 19' 15"	2684

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	VENUS W.	103° 51' 52"	3549	105° 11' 22"	3548	106° 30' 53"	3546	107° 50' 26"	3545
	Regulus W.	98 57 52	3081	100 26 25	3079	101 55 0	3078	103 23 36	3077
	SATURN W.	59 49 53	3099	61 18 4	3097	62 46 17	3096	64 14 31	3094
	Spica W.	44 54 32	3078	46 23 9	3076	47 51 48	3074	49 20 29	3073
	α Aquilæ E.	60 22 9	4974	59 14 52	4310	58 8 9	4350	57 2 2	4393
	Fomalhaut E.	84 9 15	3973	82 44 31	3973	81 19 47	3972	79 55 3	3973
24	SATURN W.	71 36 26	3080	73 5 0	3076	74 33 39	3079	76 2 23	3067
	Spica W.	56 44 41	3056	58 13 44	3053	59 42 51	3048	61 12 4	3044
	α Aquilæ E.	51 41 58	4659	50 40 24	4797	49 39 47	4800	48 40 11	4690
	Fomalhaut E.	72 51 25	3973	71 26 41	3973	70 1 58	3972	68 37 14	3973
	α Pegasi E.	94 3 38	3381	92 41 0	3377	91 18 17	3379	89 55 29	3367
25	SATURN W.	83 27 32	3043	84 56 53	3035	86 26 22	3039	87 55 59	3023
	Spica W.	68 39 38	3018	70 9 29	3011	71 39 28	3005	73 9 34	2998
	α Aquilæ E.	44 0 6	5408	43 8 17	5547	42 18 6	5701	41 29 40	5872
	Fomalhaut E.	61 33 47	3978	60 9 10	3980	58 44 35	3983	57 20 4	3986
	α Pegasi E.	83 0 13	3347	81 36 56	3345	80 13 36	3341	78 50 12	3338
26	SATURN W.	95 26 4	2989	96 56 31	2981	98 27 8	2973	99 57 54	2966
	Spica W.	80 42 11	2964	82 13 9	2957	83 44 16	2949	85 15 33	2941
	Antares W.	34 47 43	2963	36 18 42	2965	37 49 51	2947	39 21 10	2940
	Fomalhaut E.	50 18 43	3316	48 54 50	3325	47 31 8	3337	46 7 39	3350
	α Pegasi E.	71 52 30	3399	70 28 52	3398	69 5 13	3398	67 41 34	3330
27	Spica W.	92 54 27	2901	94 26 45	2903	95 59 13	2884	97 31 52	2876
	Antares W.	47 0 13	2909	48 32 33	2901	50 5 3	2883	51 37 44	2874
	Fomalhaut E.	39 14 49	3453	37 53 32	3485	36 32 51	3502	35 12 51	3565
	α Pegasi E.	60 43 52	3345	59 20 32	3351	57 57 20	3358	56 34 16	3366
	α Arietis E.	101 23 43	2969	99 52 30	2949	98 21 5	2934	96 49 29	2925
28	Spica W.	105 17 48	2934	106 51 32	2925	108 25 28	2916	109 59 35	2907
	Antares W.	59 23 54	2931	60 57 42	2922	62 31 41	2914	64 5 51	2905
	α Pegasi E.	49 42 4	3438	48 20 31	3461	46 59 23	3485	45 38 42	3514
	α Arietis E.	89 8 42	2981	87 35 59	2973	86 3 5	2964	84 30 0	2955
29	Antares W.	71 59 35	2760	73 34 55	2752	75 10 26	2743	76 46 9	2735
	α Arietis E.	76 41 53	2915	75 7 44	2906	73 33 24	2798	71 58 54	2791
	JUPITER E.	96 43 25	2990	95 9 23	2911	93 35 10	2902	92 0 45	2794
	Aldebaran E.	107 11 16	2919	105 37 13	2910	104 2 58	2900	102 28 30	2790
30	Antares W.	84 47 38	2990	86 24 31	2981	88 1 36	2973	89 38 53	2964
	α Aquilæ W.	45 50 26	4714	46 51 14	4597	47 53 41	4491	48 57 41	4391
	α Arietis E.	64 3 52	2753	62 28 23	2746	60 52 44	2740	59 16 57	2733
	JUPITER E.	84 5 44	2748	82 30 8	2740	80 54 21	2731	79 18 22	2722
	Aldebaran E.	94 33 5	2744	92 57 24	2735	91 21 31	2727	89 45 27	2718
31	Antares W.	97 48 12	2930	99 26 40	2912	101 5 19	2903	102 44 10	2894
	α Aquilæ W.	54 38 9	4001	55 49 48	3938	57 2 29	3980	58 16 9	3896
	α Arietis E.	51 16 0	2705	49 39 27	2701	48 2 49	2697	46 26 5	2694
	JUPITER E.	71 15 33	2978	69 38 24	2970	68 1 4	2961	66 23 32	2953
	Aldebaran E.	81 42 14	2976	80 5 2	2968	78 27 39	2960	76 50 5	2952

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Equation of Time, to be Added to	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Sidereal Time of Semi-diameter Passing Meridian.	Subtracted from Apparent Time.	
Tues.	1	^h 8 ^m 47 ^s 21.47	9.696	N. 17° 54' 48".8	-38.10	15' 48".09	66.61	^m 6 ^s 4.19	0.161
Wed.	2	8 51 13.87	9.671	17 39 25.5	38.83	15 48.21	66.52	6 0.05	0.185
Thur.	3	8 55 5.67	9.647	17 23 45.0	39.54	15 48.34	66.43	5 55.31	0.210
Frid.	4	8 58 56.90	9.623	17 7 47.5	-40.25	15 48.47	66.35	5 49.99	0.234
Sat.	5	9 2 47.54	9.598	16 51 33.2	40.94	15 48.61	66.26	5 44.10	0.258
SUN.	6	9 6 37.60	9.574	16 35 2.5	41.62	15 48.74	66.18	5 37.61	0.282
Mon.	7	9 10 27.09	9.550	16 18 15.6	-42.28	15 48.89	66.09	5 30.56	0.305
Tues.	8	9 14 16.00	9.526	16 1 12.9	42.94	15 49.04	66.01	5 22.95	0.329
Wed.	9	9 18 4.34	9.502	15 43 54.6	43.58	15 49.19	65.92	5 14.75	0.353
Thur.	10	9 21 52.12	9.479	15 26 21.2	-44.21	15 49.35	65.84	5 6.00	0.376
Frid.	11	9 25 39.34	9.456	15 8 32.7	44.82	15 49.51	65.76	4 56.69	0.400
Sat.	12	9 29 25.99	9.432	14 50 29.8	45.42	15 49.68	65.68	4 46.81	0.423
SUN.	13	9 33 12.09	9.409	14 32 12.5	-46.01	15 49.85	65.60	4 36.39	0.446
Mon.	14	9 36 57.63	9.386	14 13 41.4	46.58	15 50.02	65.52	4 25.40	0.469
Tues.	15	9 40 42.63	9.364	13 54 56.7	47.14	15 50.21	65.44	4 13.88	0.491
Wed.	16	9 44 27.10	9.341	13 35 58.7	-47.68	15 50.39	65.37	4 1.82	0.514
Thur.	17	9 48 11.02	9.319	13 16 47.9	48.21	15 50.58	65.29	3 49.22	0.536
Frid.	18	9 51 54.43	9.297	12 57 24.5	48.73	15 50.78	65.22	3 36.11	0.557
Sat.	19	9 55 37.33	9.277	12 37 48.9	-49.23	15 50.98	65.15	3 22.49	0.578
SUN.	20	9 59 19.73	9.256	12 18 1.4	49.72	15 51.18	65.08	3 8.37	0.599
Mon.	21	10 3 1.64	9.236	11 58 2.2	50.20	15 51.38	65.01	2 53.76	0.618
Tues.	22	10 6 43.08	9.217	11 37 51.9	-50.66	15 51.59	64.95	2 38.69	0.638
Wed.	23	10 10 24.06	9.198	11 17 30.6	51.11	15 51.80	64.88	2 23.16	0.656
Thur.	24	10 14 4.60	9.180	10 56 58.6	51.55	15 52.01	64.82	2 7.19	0.675
Frid.	25	10 17 44.70	9.163	10 36 16.4	-51.97	15 52.22	64.76	1 50.78	0.692
Sat.	26	10 21 24.41	9.145	10 15 24.1	52.38	15 52.44	64.70	1 33.98	0.708
SUN.	27	10 25 3.72	9.131	9 54 22.1	52.78	15 52.65	64.65	1 16.80	0.724
Mon.	28	10 28 42.68	9.116	9 33 10.6	-53.17	15 52.87	64.59	0 59.24	0.739
Tues.	29	10 32 21.28	9.101	9 11 50.0	53.54	15 53.09	64.54	0 41.34	0.753
Wed.	30	10 35 59.55	9.088	8 50 20.5	53.91	15 53.31	64.49	0 23.10	0.766
Thur.	31	10 39 37.51	9.075	8 28 42.5	54.26	15 53.54	64.45	0 4.56	0.779
Frid.	32	10 43 15.18	9.064	N. 8 6 56.2	-54.59	15 53.76	64.40	0 14.29	0.791

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Subtracted from		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Added to Mean Time.			
Tues.	1	^h 8 ^m 47 ^s 20.49	9.696	N. 17° 54' 52.6	-38.10	^m 6 ^s 4.21	0.160	^h 8 ^m 41 ^s 16.28	
Wed.	2	8 51 12.90	9.671	17 39 29.4	38.83	6 0.07	0.185	8 45 12.83	
Thur.	3	8 55 4.72	9.647	17 23 48.9	39.54	5 55.33	0.210	8 49 9.39	
Frid.	4	8 58 55.96	9.623	17 7 51.4	-40.25	5 50.01	0.234	8 53 5.95	
Sat.	5	9 2 46.62	9.599	16 51 37.1	40.94	5 44.12	0.258	8 57 2.50	
SUN.	6	9 6 36.70	9.575	16 35 6.4	41.63	5 37.64	0.282	9 0 59.06	
Mon.	7	9 10 26.21	9.551	16 18 19.5	-42.29	5 30.59	0.305	9 4 55.62	
Tues.	8	9 14 15.15	9.527	16 1 16.7	42.94	5 22.98	0.329	9 8 52.17	
Wed.	9	9 18 3.51	9.503	15 43 58.4	43.58	5 14.78	0.353	9 12 48.73	
Thur.	10	9 21 51.31	9.480	15 26 24.9	-44.21	5 6.03	0.376	9 16 45.28	
Frid.	11	9 25 38.56	9.457	15 8 36.4	44.82	4 56.72	0.400	9 20 41.84	
Sat.	12	9 29 25.24	9.434	14 50 33.3	45.42	4 46.84	0.423	9 24 38.40	
SUN.	13	9 33 11.37	9.411	14 32 16.0	-46.01	4 36.42	0.446	9 28 34.95	
Mon.	14	9 36 56.94	9.388	14 13 44.8	46.58	4 25.43	0.469	9 32 31.51	
Tues.	15	9 40 41.97	9.365	13 55 0.0	47.14	4 13.91	0.491	9 36 28.06	
Wed.	16	9 44 26.47	9.343	13 36 1.9	-47.69	4 1.85	0.514	9 40 24.62	
Thur.	17	9 48 10.43	9.321	13 16 50.9	48.22	3 49.25	0.536	9 44 21.18	
Frid.	18	9 51 53.87	9.299	12 57 27.4	48.74	3 36.14	0.557	9 48 17.73	
Sat.	19	9 55 36.81	9.279	12 37 51.6	-49.24	3 22.52	0.578	9 52 14.29	
SUN.	20	9 59 19.24	9.258	12 18 3.9	49.73	3 8.40	0.599	9 56 10.84	
Mon.	21	10 3 1.19	9.238	11 58 4.6	50.19	2 53.79	0.618	10 0 7.40	
Tues.	22	10 6 42.67	9.219	11 37 54.1	-50.67	2 38.72	0.638	10 4 3.95	
Wed.	23	10 10 23.69	9.200	11 17 32.6	51.13	2 23.18	0.656	10 8 0.51	
Thur.	24	10 14 4.27	9.182	10 57 0.4	51.56	2 7.21	0.675	10 11 57.06	
Frid.	25	10 17 44.42	9.165	10 36 17.9	-51.98	1 50.80	0.692	10 15 53.62	
Sat.	26	10 21 24.17	9.148	10 15 25.4	52.39	1 34.00	0.708	10 19 50.17	
SUN.	27	10 25 3.53	9.132	9 54 23.2	52.79	1 16.81	0.724	10 23 46.72	
Mon.	28	10 28 42.53	9.118	9 33 11.4	-53.18	0 59.25	0.739	10 27 43.28	
Tues.	29	10 32 21.18	9.103	9 11 50.6	53.55	0 41.35	0.753	10 31 39.83	
Wed.	30	10 35 59.49	9.090	8 50 20.8	53.92	0 23.10	0.766	10 35 36.39	
Thur.	31	10 39 37.50	9.077	8 28 42.5	54.27	0 4.56	0.779	10 39 32.94	
Frid.	32	10 43 15.21	9.066	N. 8 6 56.0	-54.61	0 14.29	0.791	10 43 29.50	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing.

Diff. for 1 Hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	213	129° 23' 59.9"	23 36.0	143.54	— 0.17	0.0063270	—23.5	15 16 13.21
2	214	130 21 25.4	21 1.4	143.59	— 0.04	0.0062700	24.1	15 12 17.30
3	215	131 18 52.1	18 27.9	143.64	+ 0.09	0.0062115	24.7	15 8 21.39
4	216	132 16 20.0	15 55.6	143.69	+ 0.22	0.0061514	—25.4	15 4 25.48
5	217	133 13 49.2	13 24.7	143.74	0.34	0.0060896	26.1	15 0 29.57
6	218	134 11 19.7	10 55.1	143.80	0.44	0.0060260	26.9	14 56 33.66
7	219	135 8 51.6	8 26.8	143.85	+ 0.52	0.0059604	—27.8	14 52 37.74
8	220	136 6 24.8	5 59.8	143.91	0.58	0.0058928	28.6	14 48 41.84
9	221	137 3 59.3	3 34.2	143.97	0.62	0.0058230	29.6	14 44 45.93
10	222	138 1 35.2	1 10.0	144.02	+ 0.63	0.0057509	—30.5	14 40 50.02
11	223	138 59 12.4	58 47.0	144.08	0.60	0.0056766	31.4	14 36 54.11
12	224	139 56 50.9	56 25.3	144.13	0.54	0.0056001	32.3	14 32 58.19
13	225	140 54 30.6	54 4.9	144.18	+ 0.46	0.0055214	—33.2	14 29 2.29
14	226	141 52 11.4	51 45.6	144.22	0.36	0.0054405	34.2	14 25 6.38
15	227	142 49 53.3	49 27.3	144.27	0.24	0.0053574	35.1	14 21 10.47
16	228	143 47 36.4	47 10.3	144.32	+ 0.10	0.0052723	—35.9	14 17 14.56
17	229	144 45 20.7	44 54.5	144.37	— 0.04	0.0051852	36.7	14 13 18.64
18	230	145 43 6.1	42 39.7	144.41	0.17	0.0050963	37.4	14 9 22.74
19	231	146 40 52.6	40 26.1	144.46	— 0.28	0.0050058	—38.0	14 5 26.82
20	232	147 38 40.2	38 13.5	144.51	0.38	0.0049138	38.6	14 1 30.92
21	233	148 36 29.0	36 2.2	144.56	0.46	0.0048205	39.1	13 57 35.01
22	234	149 34 18.9	33 52.0	144.60	— 0.52	0.0047260	—39.6	13 53 39.10
23	235	150 32 10.0	31 43.0	144.66	0.54	0.0046305	40.0	13 49 43.19
24	236	151 30 2.5	29 35.3	144.72	0.53	0.0045340	40.4	13 45 47.28
25	237	152 27 56.4	27 29.1	144.78	— 0.49	0.0044366	—40.7	13 41 51.37
26	238	153 25 51.7	25 24.3	144.84	0.42	0.0043385	41.0	13 37 55.47
27	239	154 23 48.5	23 20.9	144.90	0.33	0.0042397	41.3	13 33 59.56
28	240	155 21 47.0	21 19.3	144.97	— 0.22	0.0041401	—41.6	13 30 3.65
29	241	156 19 47.2	19 19.4	145.05	— 0.10	0.0040399	41.9	13 26 7.74
30	242	157 17 49.2	17 21.3	145.12	+ 0.03	0.0039391	42.1	13 22 11.83
31	243	158 15 53.0	15 24.9	145.20	0.16	0.0038376	42.5	13 18 15.92
32	244	159 13 58.7	13 30.5	145.28	+ 0.28	0.0037352	—42.9	13 14 20.01
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 ^h .0.								
								Diff. for 1 Hour. — 9 ^h .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 36".1	15' 40".2	57' 8".8	+1".28	57' 24".1	+1".28	15 24.3 ^h ^m	1.85 ^m	19.0 ^d
2	15 44.4	15 48.6	57 39.4	1.28	57 54.7	1.27	16 9.4	1.91	20.0
3	15 52.7	15 56.8	58 9.9	1.26	58 24.9	1.24	16 56.4	2.02	21.0
4	16 0.5	16 4.7	58 39.6	+1.20	58 53.8	+1.15	17 46.6	2.18	22.0
5	16 8.3	16 11.7	59 7.2	1.08	59 19.8	1.00	18 41.6	2.39	23.0
6	16 14.8	16 17.5	59 31.2	0.89	59 41.1	0.75	19 41.3	2.58	24.0
7	16 19.7	16 21.4	59 49.2	+0.59	59 55.2	+0.40	20 44.9	2.69	25.0
8	16 22.3	16 22.6	59 58.7	+0.18	59 59.6	-0.05	21 49.6	2.68	26.0
9	16 22.0	16 20.6	59 57.6	-0.30	59 52.5	0.55	22 52.5	2.64	27.0
10	16 18.5	16 15.4	59 44.5	-0.80	59 33.4	-1.04	23 51.1	2.33	28.0
11	16 11.7	16 7.1	59 19.5	1.27	59 2.9	1.47	0 44.5 ^δ	2.13	29.0
12	16 2.0	15 56.4	58 44.2	1.64	58 23.5	1.78	0 44.5	2.13	0.6
13	15 50.4	15 44.1	58 1.4	-1.88	57 38.4	-1.94	1 33.4	1.96	1.6
14	15 37.7	15 31.3	57 14.8	1.96	56 51.4	1.94	2 18.9	1.84	2.6
15	15 25.0	15 19.0	56 28.3	1.88	56 6.2	1.79	3 2.2	1.78	3.6
16	15 13.4	15 8.1	55 45.4	-1.67	55 26.1	-1.53	3 44.5	1.77	4.6
17	15 3.4	14 59.3	55 8.8	1.35	54 53.6	1.17	4 27.4	1.80	5.6
18	14 55.8	14 52.8	54 40.7	0.98	54 30.1	0.77	5 11.5	1.87	6.6
19	14 50.7	14 49.2	54 22.2	-0.55	54 16.8	-0.34	5 57.6	1.97	7.6
20	14 48.5	14 48.4	54 14.0	-0.13	54 13.8	+0.08	6 46.0	2.06	8.6
21	14 49.0	14 50.3	54 16.0	+0.28	54 20.6	0.48	7 36.6	2.15	9.6
22	14 52.2	14 54.6	54 27.5	+0.66	54 36.5	+0.83	8 28.8	2.18	10.6
23	14 57.5	15 1.0	54 47.3	0.97	54 59.8	1.11	9 21.2	2.17	11.6
24	15 4.8	15 8.9	55 13.9	1.22	55 29.1	1.31	10 12.6	2.11	12.6
25	15 13.3	15 17.9	55 45.3	+1.37	56 2.0	+1.41	11 2.5	2.03	13.6
26	15 22.6	15 27.3	56 19.2	1.44	56 36.5	1.43	11 50.2	1.95	14.6
27	15 31.9	15 36.5	56 53.6	1.41	57 10.3	1.37	12 36.3	1.90	15.6
28	15 40.9	15 45.0	57 26.4	+1.31	57 41.7	+1.23	13 21.8	1.88	16.6
29	15 48.9	15 52.5	57 56.0	1.15	58 9.3	1.06	14 7.2	1.91	17.6
30	15 55.9	15 58.9	58 21.5	0.97	58 32.5	0.87	14 54.1	2.00	18.6
31	16 1.5	16 3.9	58 42.3	0.77	58 50.9	0.67	15 43.7	2.14	19.6
32	16 5.9	16 7.6	58 58.3	+0.57	59 4.6	+0.48	16 37.1	2.31	20.6

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 1.					THURSDAY 3.				
0	^h 23 ^m 37 ^s 53.27	1.9578	S. 5° 5' 7.7"	15.394	0	^h 1 ^m 13 ^s 8.29	2.0403	N. 7° 30' 31.1"	15.635
1	23 39 55.73	1.9576	4 49 43.1	15.496	1	1 15 10.82	2.0449	7 46 8.5	15.610
2	23 41 53.18	1.9574	4 34 16.6	15.457	2	1 17 13.59	2.0481	8 1 44.3	15.583
3	23 43 50.62	1.9573	4 18 48.3	15.486	3	1 19 16.59	2.0521	8 17 18.4	15.554
4	23 45 48.06	1.9574	4 3 18.3	15.515	4	1 21 19.84	2.0563	8 32 50.8	15.525
5	23 47 45.51	1.9575	3 47 46.5	15.543	5	1 23 23.34	2.0605	8 48 21.4	15.494
6	23 49 42.96	1.9576	3 32 13.1	15.570	6	1 25 27.10	2.0648	9 3 50.1	15.462
7	23 51 40.42	1.9578	3 16 38.1	15.596	7	1 27 31.12	2.0692	9 19 16.8	15.428
8	23 53 37.90	1.9581	3 1 1.6	15.630	8	1 29 35.40	2.0736	9 34 41.5	15.393
9	23 55 35.40	1.9585	2 45 23.7	15.643	9	1 31 39.95	2.0789	9 50 4.0	15.357
10	23 57 32.92	1.9590	2 29 44.5	15.665	10	1 33 44.78	2.0838	10 5 24.3	15.319
11	23 59 30.48	1.9596	2 14 3.9	15.687	11	1 35 49.89	2.0876	10 20 42.3	15.280
12	0 1 28.08	1.9603	1 58 22.1	15.707	12	1 37 55.29	2.0921	10 35 57.9	15.239
13	0 3 25.72	1.9610	1 42 39.1	15.736	13	1 40 0.98	2.0973	10 51 11.0	15.197
14	0 5 23.40	1.9617	1 26 55.0	15.749	14	1 42 6.97	2.1033	11 6 21.5	15.153
15	0 7 21.13	1.9626	1 11 10.0	15.758	15	1 44 13.26	2.1074	11 21 2.4	15.108
16	0 9 18.91	1.9636	0 55 24.0	15.774	16	1 46 19.86	2.1133	11 36 34.5	15.061
17	0 11 16.76	1.9647	0 39 37.1	15.789	17	1 48 26.77	2.1178	11 51 36.7	15.013
18	0 13 14.68	1.9659	0 23 49.3	15.803	18	1 50 33.99	2.1231	12 6 36.0	14.963
19	0 15 12.67	1.9671	S. 0° 8' 0.8"	15.814	19	1 52 41.54	2.1286	12 21 32.3	14.912
20	0 17 10.73	1.9683	N. 0° 7' 48.4"	15.825	20	1 54 49.42	2.1341	12 36 25.5	14.859
21	0 19 8.87	1.9697	0 23 38.2	15.834	21	1 56 57.63	2.1397	12 51 15.4	14.804
22	0 21 7.09	1.9712	0 39 28.5	15.842	22	1 59 6.18	2.1453	13 6 2.0	14.749
23	0 23 5.41	1.9728	N. 0° 55' 19.3"	15.850	23	2 1 15.07	2.1511	N. 13° 20' 45.3"	14.692
WEDNESDAY 2.					FRIDAY 4.				
0	0 25 3.83	1.9745	N. 1° 11' 10.5"	15.866	0	2 3 24.31	2.1569	N. 13° 35' 25.0"	14.639
1	0 27 2.35	1.9769	1 27 2.0	15.861	1	2 5 33.90	2.1638	13 50 1.1	14.572
2	0 29 0.97	1.9779	1 42 53.8	15.865	2	2 7 43.85	2.1687	14 4 33.6	14.510
3	0 30 59.70	1.9798	1 58 45.8	15.868	3	2 9 54.15	2.1748	14 19 2.3	14.446
4	0 32 58.55	1.9819	2 14 37.9	15.869	4	2 12 4.82	2.1810	14 33 27.1	14.381
5	0 34 57.53	1.9840	2 30 30.1	15.869	5	2 14 15.87	2.1872	14 47 48.0	14.314
6	0 36 56.63	1.9861	2 46 22.2	15.868	6	2 16 27.29	2.1935	15 2 4.8	14.245
7	0 38 55.86	1.9883	3 2 14.2	15.866	7	2 18 39.09	2.1998	15 16 17.4	14.174
8	0 40 55.23	1.9907	3 18 6.1	15.863	8	2 20 51.27	2.2069	15 30 25.7	14.102
9	0 42 54.75	1.9932	3 33 57.7	15.858	9	2 23 3.84	2.2137	15 44 29.7	14.029
10	0 44 54.41	1.9957	3 49 49.0	15.852	10	2 25 16.80	2.2193	15 58 29.2	13.953
11	0 46 54.23	1.9983	4 5 39.9	15.844	11	2 27 30.16	2.2260	16 12 24.1	13.877
12	0 48 54.21	2.0010	4 21 30.3	15.836	12	2 29 43.92	2.2327	16 26 14.4	13.798
13	0 50 54.35	2.0038	4 37 20.2	15.827	13	2 31 58.08	2.2394	16 39 59.9	13.717
14	0 52 54.66	2.0067	4 53 9.5	15.815	14	2 34 12.65	2.2463	16 53 40.5	13.635
15	0 54 55.15	2.0097	5 8 58.0	15.803	15	2 36 27.63	2.2539	17 7 16.1	13.551
16	0 56 55.82	2.0127	5 24 45.8	15.790	16	2 38 43.03	2.2609	17 20 46.6	13.465
17	0 58 56.67	2.0158	5 40 32.8	15.775	17	2 40 58.85	2.2671	17 34 11.9	13.378
18	1 0 57.71	2.0190	5 56 18.8	15.758	18	2 43 15.08	2.2741	17 47 32.0	13.289
19	1 2 58.95	2.0223	6 12 3.8	15.741	19	2 45 31.74	2.2813	18 0 46.6	13.198
20	1 5 0.39	2.0257	6 27 47.7	15.722	20	2 47 48.83	2.2884	18 13 55.7	13.105
21	1 7 2.04	2.0293	6 43 30.5	15.703	21	2 50 6.35	2.2957	18 26 59.2	13.011
22	1 9 3.91	2.0339	6 59 12.1	15.681	22	2 52 24.31	2.3030	18 39 57.0	12.915
23	1 11 5.09	2.0385	7 14 52.3	15.658	23	2 54 42.71	2.3103	18 52 49.0	12.817
24	1 13 8.29	2.0403	N. 7° 30' 31.1"	15.635	24	2 57 1.54	2.3176	N. 19° 5' 35.0"	12.717

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 5.					MONDAY 7.				
0	^h 2 ^m 57 ^s 1.54	2.3176	N.19° 5' 35.0"	12.717	0	^h 4 ^m 56 ^s 53.71	2.6631	N.26° 46' 7.0"	5.788
1	2 59 20.82	2.3251	19 18 15.0	12.615	1	4 59 33.66	2.6696	26 51 48.7	5.603
2	3 1 40.55	2.3325	19 30 48.8	12.512	2	5 2 13.94	2.6739	26 57 19.3	5.417
3	3 4 0.72	2.3399	19 43 16.4	12.407	3	5 4 51.53	2.6791	27 2 38.7	5.229
4	3 6 21.34	2.3474	19 55 37.6	12.299	4	5 7 35.43	2.6843	27 7 46.8	5.040
5	3 8 42.41	2.3550	20 7 52.3	12.190	5	5 10 16.64	2.6892	27 12 43.5	4.849
6	3 11 3.94	2.3626	20 20 0.4	12.079	6	5 12 58.13	2.6939	27 17 28.7	4.657
7	3 13 25.92	2.3702	20 32 1.8	11.967	7	5 15 39.90	2.6985	27 22 2.4	4.465
8	3 15 48.36	2.3778	20 43 56.4	11.853	8	5 18 21.95	2.7030	27 26 24.5	4.271
9	3 18 11.26	2.3855	20 55 44.1	11.737	9	5 21 4.26	2.7072	27 30 34.9	4.076
10	3 20 34.62	2.3932	21 7 24.8	11.618	10	5 23 46.82	2.7113	27 34 33.6	3.880
11	3 22 58.44	2.4008	21 18 58.3	11.497	11	5 26 29.62	2.7159	27 38 20.5	3.688
12	3 25 22.72	2.4085	21 30 24.5	11.375	12	5 29 12.65	2.7190	27 41 55.5	3.494
13	3 27 47.46	2.4162	21 41 43.3	11.252	13	5 31 55.90	2.7227	27 45 18.6	3.298
14	3 30 12.67	2.4240	21 52 54.7	11.127	14	5 34 39.37	2.7262	27 48 29.8	3.087
15	3 32 38.34	2.4317	22 3 58.5	10.999	15	5 37 23.04	2.7293	27 51 29.0	2.887
16	3 35 4.47	2.4394	22 14 54.6	10.870	16	5 40 6.89	2.7323	27 54 16.2	2.685
17	3 37 31.06	2.4471	22 25 42.9	10.738	17	5 42 50.92	2.7352	27 56 51.2	2.483
18	3 39 58.12	2.4548	22 36 23.2	10.605	18	5 45 35.12	2.7379	27 59 14.1	2.280
19	3 42 25.64	2.4625	22 46 55.5	10.470	19	5 48 19.47	2.7403	28 1 24.8	2.077
20	3 44 53.62	2.4701	22 57 19.6	10.333	20	5 51 3.96	2.7426	28 3 23.3	1.873
21	3 47 22.05	2.4778	23 7 35.4	10.194	21	5 53 48.58	2.7447	28 5 9.6	1.669
22	3 49 50.95	2.4854	23 17 42.9	10.054	22	5 56 33.32	2.7466	28 6 43.6	1.463
23	3 52 20.30	2.4930	N.23 27 41.9	9.912	23	5 59 18.17	2.7483	N.28 8 5.2	1.257
SUNDAY 6.					TUESDAY 8.				
0	3 54 50.11	2.5006	N.23 37 32.3	9.768	0	6 2 3.12	2.7498	N.28 9 14.5	1.059
1	3 57 20.37	2.5081	23 47 14.0	9.622	1	6 4 48.15	2.7511	28 10 11.4	0.846
2	3 51 51.08	2.5157	23 56 46.9	9.473	2	6 7 33.25	2.7521	28 10 56.0	0.640
3	4 2 22.25	2.5233	24 6 10.8	9.323	3	6 10 18.40	2.7529	28 11 28.2	0.433
4	4 4 53.87	2.5307	24 15 25.7	9.173	4	6 13 3.60	2.7536	28 11 48.0	0.226
5	4 7 25.93	2.5379	24 24 31.5	9.019	5	6 15 48.83	2.7541	28 11 55.4	+ 0.019
6	4 9 58.42	2.5452	24 33 28.0	8.864	6	6 18 34.09	2.7543	28 11 50.3	- 0.188
7	4 12 31.35	2.5525	24 42 15.2	8.707	7	6 21 19.35	2.7543	28 11 32.8	0.395
8	4 15 4.72	2.5597	24 50 52.9	8.548	8	6 24 4.61	2.7542	28 11 2.9	0.608
9	4 17 38.52	2.5668	24 59 21.0	8.388	9	6 26 49.86	2.7539	28 10 20.6	0.809
10	4 20 12.74	2.5739	25 7 39.4	8.226	10	6 29 35.08	2.7533	28 9 25.8	1.016
11	4 22 47.39	2.5809	25 15 48.1	8.062	11	6 32 20.25	2.7524	28 8 18.6	1.222
12	4 25 22.45	2.5878	25 23 46.9	7.897	12	6 35 5.37	2.7514	28 6 59.1	1.428
13	4 27 57.93	2.5947	25 31 35.6	7.739	13	6 37 50.42	2.7502	28 5 27.2	1.635
14	4 30 33.81	2.6013	25 39 14.4	7.581	14	6 40 35.39	2.7488	28 3 42.9	1.843
15	4 33 10.00	2.6079	25 46 43.0	7.391	15	6 43 20.28	2.7472	28 1 46.2	2.047
16	4 35 46.76	2.6145	25 54 1.3	7.219	16	6 46 5.06	2.7454	27 59 37.2	2.252
17	4 38 23.83	2.6211	26 1 9.3	7.046	17	6 48 49.73	2.7434	27 57 16.0	2.456
18	4 41 1.20	2.6275	26 8 6.8	6.870	18	6 51 34.27	2.7412	27 54 42.5	2.660
19	4 43 39.13	2.6337	26 14 53.7	6.693	19	6 54 18.67	2.7388	27 51 56.8	2.864
20	4 46 17.33	2.6397	26 21 30.0	6.516	20	6 57 2.92	2.7362	27 48 58.9	3.067
21	4 48 55.89	2.6457	26 27 55.6	6.337	21	6 59 47.01	2.7333	27 45 48.8	3.269
22	4 51 34.81	2.6517	26 34 10.4	6.155	22	7 2 30.92	2.7303	27 42 26.6	3.470
23	4 54 14.09	2.6575	26 40 14.2	5.972	23	7 5 14.65	2.7272	27 38 52.4	3.670
24	4 56 53.71	2.6631	N.26 46 7.0	5.788	24	7 7 58.18	2.7238	N.27 35 6.2	3.870

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 9.					FRIDAY 11.				
0	^h 7 ^m 7 ^s 58.18	2.7338	N.27° 35' 6.2"	3.870	0	^h 9 ^m 12 ^s 4.03	2.4103	N.21° 4' 40.4"	11.747
1	7 10 41.50	2.7309	27 31 8.0	4.069	1	9 14 28.41	2.4029	20 52 52.0	11.865
2	7 13 24.60	2.7164	27 26 57.9	4.367	2	9 16 52.30	2.3949	20 40 56.6	11.989
3	7 16 7.47	2.7195	27 22 36.0	4.463	3	9 19 15.71	2.3869	20 28 54.2	12.097
4	7 18 50.10	2.7094	27 18 2.3	4.659	4	9 21 38.64	2.3781	20 16 45.0	12.209
5	7 21 32.48	2.7041	27 13 16.9	4.853	5	9 24 1.08	2.3700	20 4 29.1	12.319
6	7 24 14.59	2.6996	27 8 19.9	5.047	6	9 26 23.04	2.3620	19 52 6.7	12.427
7	7 26 56.43	2.6950	27 3 11.3	5.240	7	9 28 44.52	2.3540	19 39 37.8	12.534
8	7 29 37.99	2.6909	26 57 51.1	5.439	8	9 31 5.52	2.3461	19 27 2.6	12.639
9	7 32 19.26	2.6859	26 52 19.5	5.631	9	9 33 26.05	2.3389	19 14 21.1	12.742
10	7 35 0.22	2.6809	26 46 36.6	5.810	10	9 35 46.10	2.3308	19 1 33.6	12.849
11	7 37 40.88	2.6750	26 40 42.3	5.998	11	9 38 5.68	2.3223	18 48 40.1	12.940
12	7 40 21.22	2.6696	26 34 36.8	6.184	12	9 40 24.78	2.3144	18 35 40.8	13.036
13	7 43 1.23	2.6640	26 28 20.2	6.369	13	9 42 43.41	2.3066	18 22 35.8	13.131
14	7 45 40.90	2.6582	26 21 52.5	6.552	14	9 45 1.57	2.2988	18 9 25.1	13.224
15	7 48 20.22	2.6524	26 15 13.9	6.734	15	9 47 19.27	2.2911	17 56 8.9	13.314
16	7 50 59.19	2.6465	26 8 24.4	6.914	16	9 49 36.50	2.2833	17 42 47.4	13.402
17	7 53 37.80	2.6405	26 1 24.2	7.092	17	9 51 53.27	2.2756	17 29 20.6	13.489
18	7 56 16.05	2.6343	25 54 13.3	7.270	18	9 54 9.57	2.2679	17 15 48.7	13.573
19	7 58 53.92	2.6279	25 46 51.8	7.446	19	9 56 25.41	2.2603	17 2 11.8	13.656
20	8 1 31.40	2.6214	25 39 19.8	7.620	20	9 58 40.81	2.2529	16 48 30.0	13.737
21	8 4 8.49	2.6148	25 31 37.4	7.792	21	10 0 55.76	2.2454	16 34 43.4	13.816
22	8 6 45.18	2.6082	25 23 44.7	7.963	22	10 3 10.26	2.2379	16 20 52.1	13.893
23	8 9 21.47	2.6014	N.25 15 41.8	8.139	23	10 5 24.31	2.2305	N.16 6 56.3	13.967
THURSDAY 10.					SATURDAY 12.				
0	8 11 57.35	2.5946	N.25 7 28.9	8.309	0	10 7 37.92	2.2229	N.15 52 56.1	14.039
1	8 14 32.82	2.5876	24 59 6.0	8.485	1	10 9 51.09	2.2159	15 38 51.6	14.111
2	8 17 7.86	2.5804	24 50 33.1	8.659	2	10 12 3.83	2.2086	15 24 42.8	14.181
3	8 19 42.47	2.5733	24 41 50.5	8.790	3	10 14 16.13	2.2014	15 10 29.9	14.248
4	8 22 16.65	2.5661	24 32 58.3	8.950	4	10 16 28.00	2.1944	14 56 13.1	14.313
5	8 24 50.40	2.5588	24 23 56.5	9.109	5	10 18 39.46	2.1875	14 41 52.4	14.377
6	8 27 23.71	2.5514	24 14 45.2	9.266	6	10 20 50.50	2.1805	14 27 27.9	14.438
7	8 29 56.57	2.5439	24 5 24.6	9.420	7	10 23 1.12	2.1736	14 12 59.8	14.498
8	8 32 28.98	2.5364	23 55 54.8	9.579	8	10 25 11.33	2.1667	13 58 28.1	14.557
9	8 35 0.94	2.5288	23 46 15.9	9.732	9	10 27 21.13	2.1599	13 43 52.9	14.614
10	8 37 32.44	2.5219	23 36 28.0	9.879	10	10 29 30.52	2.1533	13 29 14.4	14.669
11	8 40 3.48	2.5135	23 26 31.2	10.019	11	10 31 39.52	2.1467	13 14 32.6	14.722
12	8 42 34.06	2.5057	23 16 25.7	10.163	12	10 33 48.12	2.1401	12 59 47.7	14.773
13	8 45 4.17	2.4979	23 6 11.6	10.307	13	10 35 56.33	2.1336	12 44 59.8	14.823
14	8 47 33.81	2.4901	22 55 48.9	10.448	14	10 38 4.15	2.1279	12 30 9.0	14.871
15	8 50 2.98	2.4822	22 45 17.8	10.587	15	10 40 11.59	2.1209	12 15 15.3	14.917
16	8 52 31.68	2.4743	22 34 38.5	10.723	16	10 42 18.66	2.1146	12 0 18.9	14.962
17	8 54 59.90	2.4664	22 23 51.0	10.858	17	10 44 25.35	2.1084	11 45 19.9	15.004
18	8 57 27.65	2.4585	22 12 55.5	10.999	18	10 46 31.67	2.1023	11 30 18.4	15.045
19	8 59 54.92	2.4505	22 1 52.0	11.123	19	10 48 37.63	2.0963	11 15 14.5	15.085
20	9 2 21.71	2.4424	21 50 40.8	11.251	20	10 50 43.23	2.0903	11 0 8.2	15.123
21	9 4 48.01	2.4343	21 39 21.9	11.378	21	10 52 48.47	2.0844	10 44 59.7	15.159
22	9 7 13.83	2.4263	21 27 55.5	11.503	22	10 54 53.36	2.0787	10 29 49.1	15.194
23	9 9 39.17	2.4183	21 16 21.6	11.626	23	10 56 57.91	2.0730	10 14 36.4	15.227
24	9 12 4.03	2.4103	N.21 4 40.4	11.747	24	10 59 2.12	2.0673	N. 9 59 11.8	15.258

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 13.					TUESDAY 15.				
0	h m s	s	N. ° ' "	"	0	h m s	s	S. ° ' "	"
0	10 59 2.12	2.0673	N. 9 59' 21.8	15.358	0	12 33 22.62	1.8959	S. 2 23' 14.4	15.217
1	11 1 5.99	2.0618	9 44 5.4	15.368	1	12 35 16.33	1.8944	2 38 26.6	15.189
2	11 3 9.54	2.0564	9 28 47.2	15.317	2	12 37 9.95	1.8930	2 53 37.1	15.160
3	11 5 12.76	2.0510	9 13 27.3	15.345	3	12 39 3.49	1.8916	3 8 45.8	15.130
4	11 7 15.66	2.0457	8 58 5.8	15.370	4	12 40 56.95	1.8903	3 23 52.7	15.099
5	11 9 18.24	2.0404	8 42 42.9	15.393	5	12 42 50.33	1.8891	3 38 57.7	15.067
6	11 11 20.51	2.0352	8 27 18.6	15.416	6	12 44 43.64	1.8879	3 54 0.7	15.034
7	11 13 22.47	2.0302	8 11 53.0	15.437	7	12 46 36.88	1.8869	4 9 1.8	15.001
8	11 15 24.14	2.0253	7 56 26.2	15.457	8	12 48 30.07	1.8860	4 24 0.8	14.966
9	11 17 25.51	2.0204	7 40 58.2	15.475	9	12 50 23.20	1.8851	4 38 57.7	14.930
10	11 19 26.59	2.0156	7 25 29.2	15.492	10	12 52 16.28	1.8843	4 53 52.4	14.894
11	11 21 27.38	2.0108	7 9 59.2	15.508	11	12 54 9.31	1.8834	5 8 45.0	14.857
12	11 23 27.89	2.0069	6 54 28.3	15.522	12	12 56 2.29	1.8827	5 23 35.3	14.819
13	11 25 28.12	2.0017	6 38 56.6	15.534	13	12 57 55.24	1.8822	5 38 23.3	14.780
14	11 27 28.09	1.9972	6 23 24.2	15.545	14	12 59 48.16	1.8817	5 53 8.9	14.740
15	11 29 27.79	1.9928	6 7 51.2	15.555	15	13 1 41.04	1.8813	6 7 52.1	14.700
16	11 31 27.23	1.9886	5 52 17.6	15.564	16	13 3 33.90	1.8808	6 22 32.9	14.658
17	11 33 26.42	1.9844	5 36 43.5	15.571	17	13 5 26.74	1.8806	6 37 11.1	14.616
18	11 35 25.36	1.9803	5 21 9.1	15.577	18	13 7 19.57	1.8804	6 51 46.8	14.573
19	11 37 24.05	1.9763	5 5 34.3	15.582	19	13 9 12.39	1.8803	7 6 19.9	14.529
20	11 39 22.51	1.9723	4 49 59.2	15.586	20	13 11 5.20	1.8802	7 20 50.3	14.484
21	11 41 20.73	1.9684	4 34 24.0	15.588	21	13 12 58.01	1.8802	7 35 18.0	14.439
22	11 43 18.72	1.9646	4 18 48.7	15.588	22	13 14 50.82	1.8802	7 49 43.0	14.392
23	11 45 16.49	1.9609	N. 4 3 13.4	15.588	23	13 16 43.64	1.8803	S. 8 4 5.1	14.345
MONDAY 14.					WEDNESDAY 16.				
0	h m s	s	N. ° ' "	"	0	h m s	s	S. ° ' "	"
0	11 47 14.03	1.9573	N. 3 47 38.1	15.587	0	13 18 36.46	1.8805	S. 8 18 24.4	14.297
1	11 49 11.36	1.9538	3 32 2.9	15.585	1	13 20 29.30	1.8808	8 32 40.8	14.248
2	11 51 8.49	1.9504	3 16 27.9	15.580	2	13 22 22.16	1.8812	8 46 54.2	14.199
3	11 53 5.41	1.9470	3 0 53.3	15.574	3	13 24 15.05	1.8817	9 1 4.7	14.150
4	11 55 2.13	1.9438	2 45 19.0	15.568	4	13 26 7.97	1.8822	9 15 12.2	14.099
5	11 56 58.66	1.9406	2 29 45.1	15.562	5	13 28 0.92	1.8827	9 29 16.6	14.047
6	11 58 55.00	1.9374	2 14 11.6	15.553	6	13 29 53.90	1.8834	9 43 17.8	13.994
7	12 0 51.15	1.9344	1 58 38.7	15.543	7	13 31 46.93	1.8842	9 57 15.9	13.941
8	12 2 47.13	1.9316	1 43 6.4	15.532	8	13 33 40.00	1.8849	10 11 10.7	13.887
9	12 4 42.94	1.9287	1 27 34.8	15.520	9	13 35 33.12	1.8857	10 25 2.3	13.833
10	12 6 38.58	1.9259	1 12 4.0	15.507	10	13 37 26.29	1.8867	10 38 50.6	13.777
11	12 8 34.05	1.9232	0 56 33.9	15.494	11	13 39 19.52	1.8877	10 52 35.5	13.730
12	12 10 29.36	1.9206	0 41 4.7	15.479	12	13 41 12.81	1.8888	11 6 17.0	13.683
13	12 12 24.52	1.9182	0 25 36.4	15.462	13	13 43 6.17	1.8899	11 19 55.1	13.636
14	12 14 19.54	1.9157	N. 0 10 9.2	15.444	14	13 44 59.60	1.8910	11 33 29.7	13.587
15	12 16 14.41	1.9133	S. 0 5 16.9	15.426	15	13 46 53.09	1.8922	11 47 0.7	13.537
16	12 18 9.14	1.9111	0 20 41.9	15.407	16	13 48 46.66	1.8935	12 0 28.1	13.487
17	12 20 3.74	1.9089	0 36 5.8	15.387	17	13 50 40.31	1.8949	12 13 51.9	13.437
18	12 21 58.21	1.9068	0 51 28.4	15.366	18	13 52 34.05	1.8964	12 27 12.1	13.386
19	12 23 52.56	1.9048	1 6 49.7	15.343	19	13 54 27.88	1.8979	12 40 28.6	13.334
20	12 25 46.79	1.9029	1 22 9.6	15.320	20	13 56 21.80	1.8994	12 53 41.3	13.280
21	12 27 40.91	1.9011	1 37 28.1	15.296	21	13 58 15.81	1.9010	13 6 50.2	13.227
22	12 29 34.92	1.8993	1 52 45.1	15.271	22	14 0 9.92	1.9027	13 19 55.3	13.173
23	12 31 28.82	1.8975	2 8 0.6	15.244	23	14 2 4.14	1.9045	13 32 56.5	13.119
24	12 33 22.62	1.8959	S. 2 23 14.4	15.217	24	14 3 58.46	1.9063	S. 13 45 53.7	13.065

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 17.					SATURDAY 19.				
0	14 3 58.46	1.9063	S. 13 45 53.7	12.991	0	15 38 30.98	2.0485	S. 22 36 42.6	6.999
1	14 5 52.89	1.9089	13 58 47.0	12.855	1	15 40 34.00	2.0592	22 45 34.9	6.991
2	14 7 47.41	1.9101	14 11 36.3	12.787	2	15 42 37.25	2.0580	22 54 21.1	6.719
3	14 9 42.10	1.9190	14 24 21.5	12.719	3	15 44 40.72	2.0597	23 3 1.2	6.617
4	14 11 36.88	1.9141	14 37 2.6	12.650	4	15 46 44.42	2.0635	23 11 35.2	6.514
5	14 13 31.79	1.9169	14 49 39.5	12.581	5	15 48 48.34	2.0673	23 20 2.9	6.410
6	14 15 26.82	1.9183	15 2 12.3	12.512	6	15 50 52.49	2.0711	23 28 24.4	6.306
7	14 17 21.98	1.9205	15 14 40.9	12.441	7	15 52 56.87	2.0749	23 36 39.6	6.201
8	14 19 17.28	1.9227	15 27 5.2	12.368	8	15 55 1.48	2.0787	23 44 48.5	6.095
9	14 21 12.71	1.9250	15 39 25.1	12.296	9	15 57 6.31	2.0894	23 52 51.0	5.988
10	14 23 8.28	1.9274	15 51 40.7	12.223	10	15 59 11.37	2.0863	24 0 47.1	5.881
11	14 25 4.00	1.9299	16 3 51.9	12.149	11	16 1 16.67	2.0901	24 8 36.7	5.773
12	14 26 59.87	1.9394	16 15 58.6	12.075	12	16 3 22.19	2.0939	24 16 19.9	5.665
13	14 28 55.89	1.9349	16 28 0.9	12.000	13	16 5 27.94	2.0977	24 23 56.5	5.555
14	14 30 52.06	1.9374	16 39 58.6	11.924	14	16 7 33.92	2.1016	24 31 26.5	5.445
15	14 32 48.38	1.9400	16 51 51.8	11.848	15	16 9 40.13	2.1054	24 38 49.9	5.334
16	14 34 44.86	1.9427	17 3 40.4	11.771	16	16 11 46.57	2.1092	24 46 6.6	5.223
17	14 36 41.50	1.9454	17 15 24.3	11.693	17	16 13 53.23	2.1129	24 53 16.6	5.111
18	14 38 38.31	1.9482	17 27 3.5	11.614	18	16 16 0.12	2.1167	25 0 19.9	5.000
19	14 40 35.28	1.9510	17 38 38.0	11.535	19	16 18 7.24	2.1205	25 7 16.4	4.888
20	14 42 32.43	1.9539	17 50 7.7	11.454	20	16 20 14.58	2.1242	25 14 6.0	4.776
21	14 44 29.75	1.9568	18 1 32.5	11.373	21	16 22 22.15	2.1280	25 20 48.8	4.665
22	14 46 27.25	1.9597	18 12 52.5	11.292	22	16 24 2.94	2.1317	25 27 24.6	4.553
23	14 48 24.92	1.9627	S. 18 24 7.6	11.210	23	16 26 37.95	2.1354	S. 25 33 53.5	4.442
FRIDAY 18.					SUNDAY 20.				
0	14 50 22.77	1.9657	S. 18 35 17.7	11.127	0	16 28 46.19	2.1391	S. 25 40 15.4	4.330
1	14 52 20.80	1.9688	18 46 22.8	11.043	1	16 30 54.65	2.1428	25 46 30.2	4.218
2	14 54 19.02	1.9719	18 57 22.9	10.959	2	16 33 3.33	2.1464	25 52 38.0	4.107
3	14 56 17.43	1.9751	19 8 17.9	10.874	3	16 35 12.22	2.1500	25 58 38.7	3.995
4	14 58 16.03	1.9783	19 19 7.8	10.788	4	16 37 21.33	2.1537	26 4 32.2	3.883
5	15 0 14.82	1.9815	19 29 52.5	10.702	5	16 39 30.66	2.1573	26 10 18.5	3.771
6	15 2 13.81	1.9848	19 40 32.0	10.615	6	16 41 40.20	2.1608	26 15 57.6	3.659
7	15 4 13.00	1.9881	19 51 6.3	10.527	7	16 43 49.96	2.1643	26 21 29.4	3.547
8	15 6 12.38	1.9913	20 1 35.2	10.438	8	16 45 59.92	2.1678	26 26 53.9	3.435
9	15 8 11.96	1.9947	20 11 58.8	10.348	9	16 48 10.09	2.1713	26 32 11.0	3.323
10	15 10 11.74	1.9981	20 22 17.0	10.258	10	16 50 20.47	2.1747	26 37 20.8	3.211
11	15 12 11.73	2.0016	20 32 29.8	10.167	11	16 52 31.05	2.1780	26 42 23.1	3.099
12	15 14 11.93	2.0051	20 42 37.1	10.076	12	16 54 41.83	2.1813	26 47 18.0	2.987
13	15 16 12.34	2.0086	20 52 38.9	9.984	13	16 56 52.81	2.1847	26 52 5.4	2.875
14	15 18 12.96	2.0120	21 2 35.1	9.891	14	16 59 3.99	2.1880	26 56 45.2	2.763
15	15 20 13.78	2.0155	21 12 25.8	9.798	15	17 1 15.37	2.1913	27 1 17.5	2.651
16	15 22 14.82	2.0191	21 22 10.8	9.703	16	17 3 26.94	2.1944	27 5 42.2	2.539
17	15 24 16.07	2.0227	21 31 50.1	9.608	17	17 5 38.70	2.1975	27 9 59.2	2.427
18	15 26 17.54	2.0263	21 41 23.7	9.512	18	17 7 50.64	2.2006	27 14 8.6	2.315
19	15 28 19.23	2.0300	21 50 51.5	9.415	19	17 10 2.77	2.2037	27 18 10.3	2.203
20	15 30 21.14	2.0336	22 0 13.5	9.318	20	17 12 15.08	2.2067	27 22 4.2	2.091
21	15 32 23.26	2.0373	22 9 29.7	9.221	21	17 14 27.57	2.2096	27 25 50.4	1.979
22	15 34 25.61	2.0410	22 18 40.0	9.122	22	17 16 40.23	2.2125	27 29 28.7	1.867
23	15 36 28.18	2.0447	22 27 44.3	9.022	23	17 18 53.07	2.2154	27 32 59.2	1.755
24	15 38 30.98	2.0485	S. 22 36 42.6	8.922	24	17 21 6.08	2.2183	S. 27 36 21.9	1.643

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 21.					WEDNESDAY 23.				
0	^h 17 ^m 21 ^s 6.08	2.2182	S. 27° 36' 21.9"	3.319	0	^h 19 ^m 9 ^s 30.62	2.2608	S. 27° 37' 2.9"	3.361
1	17 23 19.25	2.2209	27 39 36.7	3.180	1	19 11 46.79	2.2601	27 33 37.0	3.509
2	17 25 32.59	2.2237	27 42 43.5	3.048	2	19 14 2.91	2.2602	27 30 2.7	3.642
3	17 27 46.09	2.2263	27 45 42.4	2.915	3	19 16 18.97	2.2672	27 26 19.9	3.783
4	17 29 59.74	2.2288	27 48 33.3	2.789	4	19 18 34.97	2.2661	27 22 28.7	3.923
5	17 32 13.54	2.2313	27 51 16.2	2.648	5	19 20 50.90	2.2650	27 18 29.1	4.064
6	17 34 27.49	2.2338	27 53 51.0	2.513	6	19 23 6.77	2.2639	27 14 21.0	4.205
7	17 36 41.59	2.2361	27 56 17.8	2.379	7	19 25 22.57	2.2626	27 10 4.5	4.344
8	17 38 55.82	2.2384	27 58 36.5	2.244	8	19 27 38.28	2.2619	27 5 39.7	4.483
9	17 41 10.19	2.2407	28 0 47.1	2.108	9	19 29 53.91	2.2598	27 1 6.6	4.622
10	17 43 24.70	2.2428	28 2 49.5	1.973	10	19 32 9.46	2.2584	26 56 25.1	4.761
11	17 45 39.33	2.2449	28 4 43.8	1.837	11	19 34 24.92	2.2568	26 51 35.3	4.896
12	17 47 54.09	2.2470	28 6 29.9	1.700	12	19 36 40.28	2.2552	26 46 37.3	5.036
13	17 50 8.97	2.2489	28 8 7.8	1.563	13	19 38 55.55	2.2536	26 41 31.0	5.174
14	17 52 23.96	2.2508	28 9 37.4	1.425	14	19 41 10.71	2.2519	26 36 16.4	5.312
15	17 54 39.07	2.2527	28 10 58.8	1.287	15	19 43 25.77	2.2501	26 30 53.5	5.450
16	17 56 54.29	2.2545	28 12 11.9	1.149	16	19 45 40.72	2.2482	26 25 22.4	5.587
17	17 59 9.61	2.2562	28 13 16.7	1.011	17	19 47 55.55	2.2463	26 19 43.1	5.723
18	18 1 25.03	2.2578	28 14 13.2	0.873	18	19 50 10.27	2.2443	26 13 55.7	5.858
19	18 3 40.55	2.2593	28 15 1.4	0.733	19	19 52 24.87	2.2422	26 8 0.1	5.994
20	18 5 56.15	2.2608	28 15 41.2	0.593	20	19 54 39.34	2.2401	26 1 56.4	6.126
21	18 8 11.84	2.2622	28 16 12.6	0.454	21	19 56 53.68	2.2380	25 55 44.7	6.263
22	18 10 27.61	2.2634	28 16 35.7	0.315	22	19 59 7.90	2.2358	25 49 24.9	6.397
23	18 12 43.45	2.2647	S. 28 16 50.4	0.174	23	20 1 21.98	2.2335	S. 25 42 57.1	6.531
TUESDAY 22.					THURSDAY 24.				
0	18 14 59.37	2.2659	S. 28 16 50.6	- 0.033	0	20 3 35.92	2.2312	S. 25 36 21.2	6.664
1	18 17 15.36	2.2670	28 16 54.4	+ 0.107	1	20 5 49.72	2.2298	25 29 37.4	6.796
2	18 19 31.41	2.2679	28 16 43.8	0.247	2	20 8 3.38	2.2284	25 22 45.7	6.926
3	18 21 47.51	2.2688	28 16 24.8	0.388	3	20 10 16.89	2.2269	25 15 46.1	7.059
4	18 24 3.67	2.2697	28 15 57.3	0.529	4	20 12 30.26	2.2215	25 8 38.6	7.190
5	18 26 19.88	2.2705	28 15 21.3	0.671	5	20 14 43.47	2.2189	25 1 23.3	7.320
6	18 28 36.13	2.2712	28 14 36.8	0.819	6	20 16 56.53	2.2163	24 54 0.2	7.450
7	18 30 52.42	2.2718	28 13 43.8	0.953	7	20 19 9.43	2.2137	24 46 29.3	7.579
8	18 33 8.74	2.2723	28 12 42.4	1.094	8	20 21 22.18	2.2111	24 38 50.7	7.707
9	18 35 25.10	2.2728	28 11 32.5	1.236	9	20 23 34.76	2.2084	24 31 4.5	7.834
10	18 37 41.48	2.2731	28 10 14.1	1.378	10	20 25 47.18	2.2056	24 23 10.6	7.962
11	18 39 57.87	2.2733	28 8 47.1	1.520	11	20 27 59.43	2.2029	24 15 9.1	8.088
12	18 42 14.28	2.2736	28 7 11.7	1.661	12	20 30 11.52	2.2001	24 7 0.1	8.214
13	18 44 30.70	2.2737	28 5 27.8	1.803	13	20 32 23.44	2.1972	23 58 43.5	8.339
14	18 46 47.12	2.2738	28 3 35.3	1.946	14	20 34 35.18	2.1942	23 50 19.4	8.463
15	18 49 3.55	2.2738	28 1 34.3	2.088	15	20 36 46.75	2.1913	23 41 47.9	8.587
16	18 51 19.98	2.2736	27 59 24.8	2.229	16	20 38 58.14	2.1884	23 33 9.0	8.710
17	18 53 36.39	2.2734	27 57 6.8	2.371	17	20 41 9.36	2.1855	23 24 22.7	8.832
18	18 55 52.79	2.2732	27 54 40.3	2.512	18	20 43 20.40	2.1825	23 15 29.1	8.954
19	18 58 9.17	2.2728	27 52 5.3	2.654	19	20 45 31.26	2.1796	23 6 28.2	9.075
20	19 0 25.52	2.2723	27 49 21.8	2.796	20	20 47 41.94	2.1764	22 57 20.1	9.194
21	19 2 41.85	2.2719	27 46 29.8	2.937	21	20 49 52.43	2.1733	22 48 4.9	9.313
22	19 4 58.15	2.2713	27 43 29.3	3.079	22	20 52 2.74	2.1703	22 38 42.5	9.432
23	19 7 14.41	2.2706	27 40 20.3	3.220	23	20 54 12.87	2.1673	22 29 13.0	9.550
24	19 9 30.62	2.2698	S. 27 37 2.9	3.361	24	20 56 22.82	2.1642	S. 22 19 36.5	9.667

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 25.					SUNDAY 27.				
0	^h 20 ^m 56 ^s 22.82	2.1642	S. 22° 19' 36.5"	9.867	0	^h 22 ^m 36 ^s 46.84	2.0975	S. 12° 38' 0.1"	14.187
1	20 58 32.58	2.1611	22 9 53.0	9.783	1	22 38 48.43	2.0954	12 23 46.8	14.256
2	21 0 42.15	2.1580	22 0 2.5	9.698	2	22 40 49.89	2.0933	12 9 29.4	14.304
3	21 2 51.54	2.1549	21 50 5.2	10.013	3	22 42 51.23	2.0914	11 55 7.9	14.391
4	21 5 0.74	2.1517	21 40 1.0	10.127	4	22 44 52.46	2.0196	11 40 42.5	14.456
5	21 7 9.75	2.1485	21 29 50.0	10.340	5	22 46 53.58	2.0177	11 26 13.2	14.500
6	21 9 18.56	2.1453	21 19 32.2	10.353	6	22 48 54.58	2.0158	11 11 40.1	14.563
7	21 11 27.19	2.1422	21 9 7.7	10.463	7	22 50 55.47	2.0140	10 57 3.3	14.645
8	21 13 35.63	2.1391	20 58 36.6	10.573	8	22 52 56.26	2.0124	10 42 22.7	14.707
9	21 15 43.88	2.1359	20 47 59.0	10.682	9	22 54 56.96	2.0108	10 27 38.5	14.768
10	21 17 51.94	2.1328	20 37 14.8	10.791	10	22 56 57.56	2.0092	10 12 50.8	14.804
11	21 19 59.81	2.1297	20 26 24.1	10.898	11	22 58 58.07	2.0076	9 57 59.6	14.868
12	21 22 7.50	2.1266	20 15 27.0	11.004	12	23 0 58.48	2.0061	9 43 4.9	14.930
13	21 24 15.00	2.1234	20 4 23.6	11.110	13	23 2 58.80	2.0046	9 28 6.9	14.994
14	21 26 22.30	2.1202	19 53 13.8	11.216	14	23 4 59.05	2.0035	9 13 5.6	15.047
15	21 28 29.42	2.1171	19 41 57.7	11.320	15	23 6 59.22	2.0023	8 58 1.2	15.100
16	21 30 36.35	2.1139	19 30 35.4	11.422	16	23 8 59.31	2.0008	8 42 53.6	15.152
17	21 32 43.09	2.1108	19 19 7.0	11.524	17	23 10 59.33	1.9998	8 27 42.9	15.202
18	21 34 49.65	2.1077	19 7 32.5	11.625	18	23 12 59.29	1.9987	8 12 29.3	15.252
19	21 36 56.02	2.1047	18 55 52.0	11.725	19	23 14 59.18	1.9977	7 57 12.7	15.300
20	21 39 2.21	2.1017	18 44 5.5	11.825	20	23 16 59.01	1.9967	7 41 53.3	15.347
21	21 41 8.22	2.0987	18 32 13.0	11.924	21	23 18 58.78	1.9957	7 26 31.1	15.393
22	21 43 14.05	2.0956	18 20 14.6	12.021	22	23 20 58.50	1.9949	7 11 6.2	15.438
23	21 45 19.69	2.0925	S. 18° 8' 10.5"	12.116	23	23 22 58.17	1.9943	S. 6° 55' 38.6"	15.483
SATURDAY 26.					MONDAY 28.				
0	21 47 25.15	2.0895	S. 17° 56' 0.7"	12.211	0	23 24 57.80	1.9935	S. 6° 40' 8.5"	15.528
1	21 49 30.43	2.0866	17 43 45.2	12.306	1	23 26 57.39	1.9928	6 24 35.9	15.563
2	21 51 35.54	2.0837	17 31 24.0	12.399	2	23 28 56.94	1.9923	6 9 0.9	15.593
3	21 53 40.47	2.0808	17 18 57.3	12.491	3	23 30 56.46	1.9917	5 53 23.5	15.642
4	21 55 45.23	2.0779	17 6 25.1	12.582	4	23 32 55.95	1.9913	5 37 43.8	15.689
5	21 57 49.82	2.0750	16 53 47.4	12.673	5	23 34 55.42	1.9910	5 22 1.9	15.715
6	21 59 54.23	2.0722	16 41 4.3	12.762	6	23 36 54.87	1.9907	5 6 18.0	15.740
7	22 1 58.48	2.0694	16 28 15.9	12.851	7	23 38 54.30	1.9904	4 50 32.0	15.763
8	22 4 2.56	2.0666	16 15 22.2	12.938	8	23 40 53.72	1.9903	4 34 44.0	15.816
9	22 6 6.47	2.0638	16 2 23.4	13.024	9	23 42 53.14	1.9902	4 18 54.1	15.847
10	22 8 10.22	2.0611	15 49 19.4	13.109	10	23 44 52.55	1.9902	4 3 2.4	15.877
11	22 10 13.81	2.0584	15 36 10.3	13.193	11	23 46 51.97	1.9903	3 47 8.9	15.906
12	22 12 17.23	2.0558	15 22 56.3	13.275	12	23 48 51.39	1.9904	3 31 13.7	15.933
13	22 14 20.50	2.0532	15 9 37.3	13.357	13	23 50 50.82	1.9906	3 15 16.9	15.959
14	22 16 23.62	2.0507	14 56 13.4	13.438	14	23 52 50.27	1.9909	2 59 18.6	15.984
15	22 18 26.58	2.0481	14 42 44.7	13.518	15	23 54 49.73	1.9912	2 43 18.8	16.007
16	22 20 29.39	2.0457	14 29 11.3	13.597	16	23 56 49.22	1.9917	2 27 17.7	16.029
17	22 22 32.06	2.0433	14 15 33.1	13.675	17	23 58 48.74	1.9923	2 11 15.3	16.051
18	22 24 34.59	2.0409	14 1 50.3	13.751	18	0 0 48.30	1.9929	1 55 11.6	16.071
19	22 26 36.97	2.0385	13 48 3.0	13.827	19	0 2 47.89	1.9936	1 39 6.8	16.089
20	22 28 39.21	2.0362	13 34 11.1	13.902	20	0 4 47.53	1.9943	1 23 0.9	16.107
21	22 30 41.32	2.0340	13 20 14.8	13.974	21	0 6 47.21	1.9951	1 6 54.0	16.123
22	22 32 43.29	2.0318	13 6 14.2	14.046	22	0 8 46.94	1.9960	0 50 46.2	16.137
23	22 34 45.13	2.0296	12 52 9.3	14.117	23	0 10 46.73	1.9970	0 34 37.6	16.150
24	22 36 46.84	2.0275	S. 12° 38' 0.1"	14.187	24	0 12 46.58	1.9981	S. 0° 18' 28.2"	16.162

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 29.					THURSDAY 31.				
0	h m s	s	S. 0° 18' 28.2"	16.162	0	h m s	s	N. 12° 25' 17.3"	15.109
1	0 12 46.58	1.9981	S. 0 2 18.1	16.173	1	1 51 25.71	2.1433	12 40 22.1	15.051
2	0 14 46.50	1.9999	N. 0 13 52.6	16.182	2	1 53 34.46	2.1483	12 55 23.4	14.992
3	0 16 46.49	2.0004	0 30 3.8	16.191	3	1 55 43.51	2.1534	13 10 21.1	14.930
4	0 18 46.55	2.0017	0 46 15.5	16.198	4	1 57 52.87	2.1586	13 25 15.0	14.867
5	0 20 46.69	2.0031	1 2 27.6	16.203	5	2 0 2.54	2.1637	13 40 5.1	14.803
6	0 22 46.92	2.0045	1 18 39.9	16.207	6	2 2 12.52	2.1689	13 54 51.3	14.737
7	0 24 47.23	2.0060	1 34 52.4	16.210	7	2 4 22.81	2.1743	14 9 33.5	14.668
8	0 26 47.64	2.0076	1 51 5.1	16.212	8	2 6 33.43	2.1797	14 24 11.5	14.598
9	0 28 48.15	2.0093	2 7 17.9	16.212	9	2 8 44.37	2.1851	14 38 45.3	14.527
10	0 30 48.76	2.0111	2 23 30.6	16.211	10	2 10 55.64	2.1906	14 53 14.8	14.455
11	0 32 49.48	2.0130	2 39 43.2	16.211	11	2 13 7.24	2.1962	15 7 39.9	14.380
12	0 34 50.32	2.0149	2 55 55.5	16.208	12	2 15 19.18	2.2018	15 22 0.4	14.304
13	0 36 51.27	2.0169	3 12 7.6	16.204	13	2 17 31.46	2.2075	15 36 16.3	14.227
14	0 38 52.34	2.0190	3 28 19.4	16.199	14	2 19 44.08	2.2133	15 50 27.6	14.148
15	0 40 53.55	2.0212	3 44 30.7	16.192	15	2 21 57.05	2.2192	16 4 34.1	14.067
16	0 42 54.89	2.0235	4 0 41.4	16.183	16	2 24 10.38	2.2251	16 18 35.6	13.983
17	0 44 56.37	2.0258	4 16 51.6	16.174	17	2 26 24.06	2.2310	16 32 32.1	13.899
18	0 46 57.99	2.0282	4 33 1.1	16.164	18	2 28 38.10	2.2370	16 46 23.5	13.813
19	0 48 59.76	2.0307	4 49 9.8	16.152	19	2 30 52.50	2.2431	17 0 9.7	13.726
20	0 51 1.68	2.0333	5 5 17.7	16.138	20	2 33 7.27	2.2492	17 13 50.6	13.636
21	0 53 3.76	2.0360	5 21 24.6	16.123	21	2 35 22.40	2.2553	17 27 26.0	13.544
22	0 55 6.00	2.0388	5 37 30.5	16.107	22	2 37 37.90	2.2614	17 40 55.9	13.452
23	0 57 8.41	2.0416	N. 5 53 35.3	16.089	23	2 39 53.77	2.2677	N. 17 54 20.2	13.358
24	0 59 10.99	2.0445		16.070		2 42 10.02	2.2740		
WEDNESDAY 30.					FRIDAY, SEPTEMBER 1.				
0	1 1 13.75	2.0475	N. 6 9 38.9	16.049	0	2 44 26.65	2.2803	N. 18 7 38.9	13.263
1	1 3 16.69	2.0505	6 25 41.2	16.027					
2	1 5 19.81	2.0537	6 41 42.1	16.003					
3	1 7 23.13	2.0570	6 57 41.6	15.978					
4	1 9 26.65	2.0603	7 13 39.5	15.952					
5	1 11 30.37	2.0637	7 29 35.8	15.924					
6	1 13 34.29	2.0671	7 45 30.4	15.895					
7	1 15 38.42	2.0707	8 1 23.2	15.864					
8	1 17 42.77	2.0744	8 17 14.1	15.832					
9	1 19 47.35	2.0782	8 33 3.0	15.798					
10	1 21 52.15	2.0819	8 48 49.8	15.763					
11	1 23 57.18	2.0858	9 4 34.5	15.726					
12	1 26 2.45	2.0898	9 20 16.9	15.688					
13	1 28 7.96	2.0938	9 35 57.0	15.648					
14	1 30 13.71	2.0979	9 51 34.7	15.607					
15	1 32 19.71	2.1021	10 7 9.8	15.563					
16	1 34 25.96	2.1063	10 22 42.3	15.519					
17	1 36 32.47	2.1107	10 38 12.1	15.473					
18	1 38 39.25	2.1152	10 53 39.1	15.426					
19	1 40 46.29	2.1197	11 9 3.2	15.377					
20	1 42 53.61	2.1243	11 24 24.4	15.327					
21	1 45 1.21	2.1290	11 39 42.5	15.275					
22	1 47 9.09	2.1337	11 54 57.4	15.221					
23	1 49 17.26	2.1385	12 10 9.0	15.166					
24	1 51 25.71	2.1433	N. 12 25 17.3	15.109					

PHASES OF THE MOON.

	d	h	m
☾ Last Quarter . . Aug.	4	16	23.3
● New Moon	11	8	47.7
☾ First Quarter. . . .	18	21	51.8
○ Full Moon	26	20	42.8

	d	h
☾ Perigee Aug.	8	9.7
☾ Apogee	20	7.0

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	α Aquilæ W.	59° 30' 44"	3776	60° 46' 11"	3799	62° 2' 27"	3885	63° 19' 30"	3844
	α Arietis E.	44 49 17	3801	43 12 25	3889	41 35 30	3888	39 58 34	3887
	JUPITER E.	64 45 49	3844	63 7 54	3835	61 29 47	3897	59 51 29	3819
	Aldebaran E.	75 12 21	3844	73 34 26	3836	71 56 20	3889	70 18 5	3821
2	α Aquilæ W.	69 54 56	3475	71 15 48	3447	72 37 11	3421	73 59 4	3387
	Fomalhaut W.	38 26 36	3053	39 55 43	3060	41 25 45	3068	42 56 38	3030
	JUPITER E.	51 37 10	3578	49 57 45	3569	48 18 8	3561	46 38 20	3554
	Aldebaran E.	62 4 20	3587	60 25 7	3581	58 45 46	3574	57 6 16	3568
	SUN E.	124 7 5	3859	122 33 54	3849	121 0 30	3839	119 26 53	3829
3	α Aquilæ W.	80 54 48	3398	82 19 2	3389	83 43 34	3380	85 8 22	3355
	Fomalhaut W.	50 41 53	3781	52 16 46	3756	53 52 11	3735	55 28 5	3713
	JUPITER E.	38 16 45	3517	36 35 56	3511	34 54 58	3505	33 13 52	3489
	Aldebaran E.	48 47 1	3545	47 6 52	3543	45 26 39	3541	43 46 23	3536
	SUN E.	111 35 33	3779	110 0 38	3770	108 25 31	3760	106 50 10	3750
4	α Aquilæ W.	92 15 45	3809	93 41 43	3804	95 7 48	3800	96 33 57	3786
	Fomalhaut W.	63 34 10	3694	65 12 33	3698	66 51 17	3693	68 30 21	3679
	α Pegasi W.	44 31 54	3076	46 0 33	3097	47 30 12	3093	49 0 46	3082
	Aldebaran E.	35 25 5	3551	33 45 3	3560	32 5 13	3571	30 25 38	3568
	Pollux E.	78 16 43	3378	76 32 36	3369	74 48 17	3361	73 3 46	3353
	SUN E.	98 50 17	3709	97 13 40	3693	95 36 51	3684	93 59 50	3675
5	Fomalhaut W.	76 50 17	3517	78 31 6	3507	80 12 9	3497	81 53 27	3487
	α Pegasi W.	56 45 17	3781	58 20 10	3755	59 55 37	3731	61 31 36	3708
	Pollux E.	64 18 6	3311	62 32 22	3303	60 46 27	3295	59 0 20	3287
	SUN E.	85 51 39	3830	84 13 25	3821	82 34 59	3813	80 56 22	3804
6	Fomalhaut W.	90 23 2	3447	92 5 30	3441	93 48 6	3436	95 30 50	3430
	α Pegasi W.	69 38 17	3618	71 16 48	3604	72 55 38	3590	74 34 47	3577
	α Arietis W.	26 3 58	3506	27 45 3	3470	29 26 58	3440	31 9 36	3413
	Pollux E.	50 7 0	3351	48 19 49	3345	46 32 28	3338	44 44 57	3329
	SUN E.	72 40 30	3566	71 0 49	3559	69 20 58	3553	67 40 58	3545
7	α Pegasi W.	82 54 24	3530	84 34 56	3522	86 15 38	3517	87 56 28	3512
	α Arietis W.	39 50 54	3390	41 36 24	3307	43 22 13	3296	45 8 19	3285
	Pollux E.	35 45 14	3306	33 56 55	3291	32 8 29	3277	30 19 57	3264
	SUN E.	59 18 49	3518	57 38 1	3514	55 57 7	3510	54 16 7	3507
8	α Arietis W.	54 2 12	3947	55 49 30	3942	57 36 55	3938	59 24 26	3934
	JUPITER W.	32 17 5	3945	34 4 26	3939	35 51 55	3935	37 39 30	3932
	SUN E.	45 50 8	3496	44 8 49	3496	42 27 30	3496	40 46 11	3497
9	α Arietis W.	68 23 3	3987	70 10 51	3987	71 58 38	3988	73 46 24	3989
	JUPITER W.	46 38 19	3996	48 26 8	3996	50 13 57	3997	52 1 44	3999
	Aldebaran W.	38 11 22	3311	39 57 6	3309	41 43 2	3306	43 29 8	3301
	SUN E.	32 20 21	3515	30 39 29	3502	28 58 47	3531	27 18 17	3548
13	SUN W.	21 26 53	3670	22 59 50	3674	24 32 42	3680	26 5 26	3689
	Spica E.	40 33 35	3462	38 51 29	3478	37 9 45	3493	35 28 22	3519
	Antares E.	86 25 55	3457	84 43 41	3473	83 1 48	3487	81 20 16	3492

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Aquilæ W.	64° 37' 17"	3005	65° 55' 46"	3570	67° 14' 53"	3536	68° 34' 37"	3505
	α Arietis E.	38 21 37	2989	36 44 42	2991	35 7 50	2995	33 31 4	2701
	JUPITER E.	58 13 0	2911	56 34 20	2909	54 55 28	2904	53 16 25	2885
	Aldebaran E.	68 39 39	2914	67 1 3	2907	65 22 18	2901	63 43 24	2893
2	α Aquilæ W.	75 21 24	3374	76 44 10	3359	78 7 21	3333	79 30 54	3315
	Fomalhaut W.	44 28 19	2995	46 0 44	2994	47 33 49	2934	49 7 33	2906
	JUPITER E.	44 58 22	2946	43 18 13	2939	41 37 54	2931	39 57 24	2925
	Aldebaran E.	55 26 39	2954	53 46 54	2959	52 7 3	2954	50 27 5	2950
	SUN E.	117 53 3	2919	116 19 0	2909	114 44 44	2799	113 10 15	2789
3	α Aquilæ W.	86 33 26	3943	87 58 44	3933	89 24 14	3924	90 49 55	3916
	Fomalhaut W.	57 4 27	2993	58 41 16	2975	60 18 30	2956	61 56 9	2940
	JUPITER E.	31 32 38	2484	29 51 17	2480	28 9 50	2486	26 28 17	2482
	Aldebaran E.	42 6 5	2939	40 25 46	2940	38 45 29	2949	37 5 14	2946
	SUN E.	105 14 37	2741	103 38 51	2731	102 2 52	2729	100 26 41	2712
4	α Aquilæ W.	98 0 9	3196	99 26 23	3196	100 52 35	3199	102 18 45	3202
	Fomalhaut W.	70 9 45	2956	71 49 27	2953	73 29 27	2940	75 9 44	2939
	α Pegasi W.	50 32 11	2905	52 4 24	2870	53 37 21	2898	55 11 0	2898
	Aldebaran E.	28 46 24	2906	27 7 37	2931	25 29 24	2903	23 51 54	2703
	Pollux E.	71 19 2	2944	69 34 6	2935	67 48 58	2927	66 3 38	2919
	SUN E.	92 22 36	2966	90 45 10	2957	89 7 32	2947	87 29 41	2939
5	Fomalhaut W.	83 34 58	2479	85 16 41	2470	86 58 37	2462	88 40 44	2454
	α Pegasi W.	63 8 4	2988	64 45 0	2989	66 22 22	2951	68 0 8	2934
	Pollux E.	57 14 2	2279	55 27 32	2272	53 40 52	2265	51 54 1	2258
	SUN E.	79 17 33	2996	77 38 33	2989	75 59 23	2981	74 20 2	2973
6	Fomalhaut W.	97 13 42	2426	98 56 40	2422	100 39 44	2419	102 22 52	2416
	α Pegasi W.	76 14 14	2956	77 53 56	2955	79 33 53	2945	81 14 3	2938
	α Arietis W.	32 52 52	2390	34 36 41	2369	36 21 0	2351	38 5 45	2335
	Pollux E.	42 57 17	2936	41 9 28	2920	39 21 31	2915	37 33 26	2910
	SUN E.	66 0 48	2940	64 20 30	2934	62 40 4	2926	60 59 30	2923
7	α Pegasi W.	89 37 25	2908	91 18 27	2904	92 59 34	2903	94 40 43	2902
	α Arietis W.	46 54 41	2976	48 41 16	2967	50 28 4	2960	52 15 3	2953
	Pollux E.	28 31 20	2191	26 42 39	2188	24 53 54	2187	23 5 7	2186
	SUN E.	52 35 3	2903	50 53 54	2900	49 12 41	2899	47 31 26	2897
8	α Arietis W.	61 12 3	2931	62 59 44	2929	64 47 29	2926	66 35 15	2927
	JUPITER W.	39 27 10	2929	41 14 54	2927	43 2 41	2926	44 50 30	2926
	SUN E.	39 4 53	2499	37 23 38	2502	35 42 27	2505	34 1 21	2510
9	α Arietis W.	75 34 7	2939	77 21 47	2935	79 9 22	2939	80 56 52	2943
	JUPITER W.	53 49 28	2939	55 37 8	2935	57 24 44	2939	59 12 14	2942
	Aldebaran W.	45 15 21	2987	47 1 40	2984	48 48 3	2983	50 34 27	2983
	SUN E.	25 38 2	2955	23 58 5	2960	22 18 28	2967	20 39 15	2967
13	SUN W.	27 37 59	2999	29 10 19	2911	30 42 24	2923	32 14 14	2936
	Spica E.	33 47 22	2926	32 6 45	2942	30 26 30	2959	28 46 38	2976
	Antares E.	79 39 6	2917	77 58 17	2933	76 17 50	2949	74 37 45	2965

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Dist.	IIIh.	P. L. of Dist.	VIh.	P. L. of Dist.	IXh.	P. L. of Dist.
14	SUN W.	33° 45' 47"	2956	35° 17' 3'	2963	36° 48' 2'	2978	38° 18' 42"	2993
	Antares E.	72 58 2	3581	71 18 41	3546	69 39 41	3612	68 1 3	3626
	α Aquilæ E.	118 30 46	3715	117 14 15	3697	115 57 25	3683	114 40 20	3679
15	SUN W.	45 47 23	3069	47 16 10	3084	48 44 39	3100	50 12 49	3115
	Antares E.	59 53 14	3707	58 16 43	3729	56 40 33	3738	55 4 43	3753
	α Aquilæ E.	108 12 25	3648	106 54 36	3641	105 36 46	3643	104 18 58	3645
16	SUN W.	57 29 1	3190	58 55 22	3204	60 21 26	3218	61 47 14	3232
	VENUS W.	29 12 26	3979	30 37 10	3987	32 1 37	3301	33 25 47	3315
	Antares E.	47 10 26	3935	45 36 31	3938	44 2 53	3959	42 29 33	3988
	α Aquilæ E.	97 50 58	3673	96 33 42	3681	95 16 35	3691	93 59 38	3701
17	SUN W.	68 52 15	3296	70 16 31	3308	71 40 33	3319	73 4 22	3330
	VENUS W.	40 22 39	3381	41 45 17	3393	43 7 41	3405	44 29 52	3416
	SATURN W.	24 2 26	3906	25 33 21	3977	27 4 2	3987	28 34 31	3997
	Antares E.	34 47 1	3997	33 15 16	3930	31 43 46	3949	30 12 29	3959
	α Aquilæ E.	87 37 47	3761	86 22 4	3775	85 6 36	3790	83 51 23	3804
18	SUN W.	80 0 31	3378	81 23 13	3386	82 45 45	3393	84 8 9	3401
	VENUS W.	51 17 46	3463	52 38 49	3474	53 59 42	3488	55 20 26	3499
	SATURN W.	36 3 57	3041	37 33 19	3049	39 2 31	3056	40 31 34	3063
	Spica W.	23 20 47	3018	24 50 38	3023	26 20 22	3030	27 49 58	3035
	α Aquilæ E.	77 39 24	3890	76 25 54	3900	75 12 43	3899	73 59 53	3899
19	SUN W.	90 58 14	3430	92 19 57	3434	93 41 35	3438	95 3 9	3441
	VENUS W.	62 2 15	3519	63 22 18	3523	64 42 17	3527	66 2 11	3530
	SATURN W.	47 54 59	3090	49 23 21	3093	50 51 39	3096	52 19 53	3100
	Spica W.	35 16 22	3058	36 45 23	3063	38 14 19	3065	39 43 12	3067
	α Aquilæ E.	68 1 6	4067	66 50 32	4093	65 40 24	4122	64 30 44	4152
	Fomalhaut E.	93 17 47	3951	91 52 38	3954	90 27 33	3958	89 2 32	3961
20	VENUS W.	72 41 2	3538	74 0 44	3538	75 20 26	3537	76 40 9	3536
	SATURN W.	59 40 18	3107	61 8 19	3108	62 36 19	3107	64 4 20	3107
	Spica W.	47 7 0	3073	48 35 42	3073	50 4 25	3073	51 33 8	3073
	α Aquilæ E.	58 50 0	4399	57 43 35	4370	56 37 47	4417	55 32 41	4466
	Fomalhaut E.	81 58 18	3973	80 33 35	3976	79 8 55	3976	77 44 16	3976
	α Pegasi E.	103 3 27	3409	101 41 21	3406	100 19 11	3402	98 56 57	3399
21	VENUS W.	83 19 10	3595	84 39 7	3580	85 59 9	3515	87 19 16	3511
	SATURN W.	71 24 50	3096	72 53 5	3091	74 21 25	3087	75 49 50	3083
	Spica W.	58 57 12	3060	60 26 11	3056	61 55 14	3059	63 24 22	3049
	α Aquilæ E.	50 18 59	4770	49 18 58	4847	48 20 0	4931	47 22 10	5021
	Fomalhaut E.	70 41 26	3984	69 16 56	3985	67 52 28	3986	66 28 0	3986
	α Pegasi E.	92 4 45	3380	90 42 6	3377	89 19 23	3378	87 56 35	3380
22	VENUS W.	94 1 21	3480	95 22 8	3479	96 43 3	3484	98 4 7	3456
	SATURN W.	83 13 23	3066	84 42 27	3049	86 11 39	3042	87 41 0	3034
	Spica W.	70 51 33	3090	72 21 21	3013	73 51 18	3005	75 21 23	2996
	Antares W.	24 57 2	3019	26 26 51	3013	27 56 48	3005	29 26 54	2997
	Fomalhaut E.	59 26 4	3985	58 1 47	3986	56 37 33	3391	55 13 23	3385
	α Pegasi E.	81 1 33	3361	79 38 20	3347	78 15 3	3344	76 51 42	3340

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	SUN	W.	39° 49' 4"	3008	41° 19' 7"	3003	42° 48' 51"	3039	44° 18' 16"	3053
	Antares	E.	66 22 46	2644	64 44 51	2660	63 7 18	2676	61 30 6	2691
	α Aquilæ	E.	113 23 1	3661	112 5 32	3653	110 47 55	3648	109 30 12	3644
15	SUN	W.	51 40 40	3131	53 8 12	3146	54 35 26	3161	56 2 22	3175
	Antares	E.	53 29 13	2768	51 54 3	2782	50 19 12	2797	48 44 40	2811
	α Aquilæ	E.	103 1 12	3649	101 43 30	3653	100 25 53	3659	99 8 22	3665
16	SUN	W.	63 12 45	3246	64 38 0	3259	66 3 0	3271	67 27 45	3284
	VENUS	W.	34 49 41	3330	36 13 18	3343	37 36 40	3356	38 59 47	3369
	Antares	E.	40 56 31	2879	39 23 45	2891	37 51 15	2903	36 19 0	2916
	α Aquilæ	E.	92 42 52	3711	91 26 17	3733	90 9 54	3735	88 53 44	3747
17	SUN	W.	74 27 59	3340	75 51 24	3351	77 14 37	3360	78 37 39	3369
	VENUS	W.	45 51 50	3437	47 13 36	3438	48 35 10	3447	49 56 33	3456
	SATURN	W.	30 4 47	3006	31 34 52	3017	33 4 44	3025	34 34 26	3034
	Antares	E.	28 41 25	2869	27 10 33	2879	25 39 54	2888	24 9 26	2897
	α Aquilæ	E.	82 36 25	3680	81 21 44	3637	80 7 20	3654	78 53 13	3671
18	SUN	W.	85 30 24	3408	86 52 32	3415	88 14 32	3430	89 36 26	3435
	VENUS	W.	56 41 2	3496	58 1 31	3503	59 21 52	3508	60 42 7	3515
	SATURN	W.	42 0 29	3069	43 29 17	3075	44 57 57	3080	46 26 31	3085
	Spica	W.	29 19 27	3040	30 48 50	3046	32 18 6	3050	33 47 17	3055
	α Aquilæ	E.	72 47 23	3670	71 35 14	3693	70 23 28	4017	69 12 5	4041
19	SUN	W.	96 24 39	3444	97 46 6	3446	99 7 31	3447	100 28 54	3449
	VENUS	W.	67 22 2	3533	68 41 50	3535	70 1 35	3536	71 21 19	3537
	SATURN	W.	53 48 3	3108	55 16 10	3105	56 44 14	3106	58 12 16	3106
	Spica	W.	41 12 2	3069	42 40 49	3071	44 9 34	3073	45 38 17	3073
	α Aquilæ	E.	63 21 32	4183	62 12 50	4217	61 4 40	4259	59 57 3	4289
	Fomalhaut	E.	87 37 35	3964	86 12 41	3967	84 47 51	3969	83 23 3	3971
20	VENUS	W.	77 59 53	3535	79 19 38	3533	80 39 26	3531	81 59 16	3527
	SATURN	W.	65 32 21	3105	67 0 24	3103	68 28 30	3101	69 56 38	3098
	Spica	W.	53 1 52	3070	54 30 38	3069	55 59 26	3066	57 28 17	3063
	α Aquilæ	E.	54 28 19	4518	53 24 43	4573	52 21 55	4633	51 19 59	4699
	Fomalhaut	E.	76 19 39	3980	74 55 4	3981	73 30 30	3989	72 5 57	3983
	α Pegasi	E.	97 34 39	3395	96 12 17	3391	94 49 50	3388	93 27 20	3384
21	VENUS	W.	88 39 28	3506	89 59 46	3499	91 20 11	3494	92 40 42	3487
	SATURN	W.	77 18 20	3078	78 46 56	3073	80 15 38	3068	81 44 27	3063
	Spica	W.	64 53 35	3043	66 22 54	3038	67 52 20	3039	69 21 53	3036
	α Aquilæ	E.	46 25 31	5190	45 30 9	5229	44 36 9	5247	43 43 36	5278
	Fomalhaut	E.	65 3 34	3988	63 39 9	3989	62 14 45	3991	60 50 23	3994
	α Pegasi	E.	86 33 43	3395	85 10 47	3361	83 47 46	3358	82 24 42	3354
22	VENUS	W.	99 25 20	3447	100 46 43	3438	102 8 16	3430	103 29 59	3420
	SATURN	W.	89 10 30	3096	90 40 10	3019	92 9 59	3010	93 39 59	3001
	Spica	W.	76 51 38	2991	78 22 2	2983	79 52 36	2974	81 23 21	2966
	Antares	W.	30 57 10	2990	32 27 35	2981	33 58 11	2973	35 28 57	2965
	Fomalhaut	E.	53 49 17	3309	52 25 16	3315	51 1 22	3291	49 37 35	3299
	α Pegasi	E.	75 28 17	3338	74 4 49	3334	72 41 17	3339	71 17 43	3330

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	SATURN W.	95° 10' 10"	9993	96° 40' 32"	9994	98° 11' 5"	9974	99° 41' 50"	9985
	Spica W.	82 54 16	9958	84 25 22	9948	85 56 40	9939	87 28 10	9929
	Antares W.	36 59 54	9956	38 31 2	9946	40 2 22	9937	41 33 54	9927
	Fomalhaut E.	48 13 57	3338	46 50 29	3348	45 27 13	3360	44 4 11	3375
	α Pegasi E.	69 54 6	3328	68 30 27	3337	67 6 47	3336	65 43 6	3338
24	Spica W.	95 8 48	9877	96 41 36	9867	98 14 37	9856	99 47 52	9845
	Antares W.	49 14 42	9876	50 47 32	9866	52 20 35	9855	53 53 52	9843
	α Pegasi E.	58 44 56	3338	57 21 28	3344	55 58 7	3350	54 34 53	3358
	α Arietis E.	99 11 48	9906	97 40 2	9914	96 8 1	9903	94 35 46	9891
25	Spica W.	107 37 43	9789	109 12 25	9777	110 47 23	9766	112 22 35	9754
	Antares W.	61 43 56	9787	63 18 41	9775	64 53 42	9764	66 28 57	9758
	α Pegasi E.	47 41 56	3433	46 20 17	3457	44 59 5	3484	43 38 23	3516
	α Arietis E.	86 50 53	9835	85 17 11	9894	83 43 14	9813	82 9 3	9801
	JUPITER E.	110 0 2	9898	108 26 10	9815	106 52 2	9804	105 17 39	9792
26	Antares W.	74 29 5	9805	76 5 52	9883	77 42 55	9878	79 20 13	9880
	α Arietis E.	74 14 28	9747	72 38 50	9737	71 2 59	9736	69 26 54	9716
	JUPITER E.	97 21 49	9733	95 45 53	9791	94 9 41	9710	92 33 14	9698
	Aldebaran E.	104 44 6	9754	103 8 38	9749	101 32 54	9730	99 56 54	9719
27	Antares W.	87 30 29	9606	89 9 16	9595	90 48 18	9585	92 27 34	9574
	α Aquilæ W.	47 31 6	4467	48 35 27	4363	49 41 22	4306	50 48 46	4178
	α Arietis E.	61 23 12	9659	59 45 51	9660	58 8 18	9653	56 30 35	9645
	JUPITER E.	84 27 9	9643	82 49 12	9639	81 11 0	9631	79 32 34	9611
	Aldebaran E.	91 53 5	9663	90 15 35	9652	88 37 50	9641	86 59 51	9632
28	Antares W.	100 47 24	9525	102 28 2	9516	104 8 53	9507	105 49 57	9498
	α Aquilæ W.	56 45 18	3890	57 59 59	3764	59 15 39	3711	60 32 14	3663
	α Arietis E.	48 19 35	9615	46 41 0	9610	45 2 19	9607	43 23 34	9604
	JUPITER E.	71 16 58	9592	69 37 11	9553	67 57 12	9544	66 17 0	9536
	Aldebaran E.	78 46 38	9585	77 7 22	9577	75 27 55	9568	73 48 16	9561
29	α Aquilæ W.	67 7 5	3467	68 28 6	3436	69 49 42	3407	71 11 51	3379
	Fomalhaut W.	35 32 29	3085	37 0 57	3030	38 30 32	2981	40 1 9	2936
	JUPITER E.	57 53 10	9497	56 11 52	9489	54 30 24	9482	52 48 46	9476
	Aldebaran E.	65 27 32	9597	63 46 56	9591	62 6 12	9516	60 25 21	9512
	Pollux E.	108 59 5	9458	107 16 53	9450	105 34 30	9443	103 51 56	9436
30	α Aquilæ W.	78 9 34	3975	79 34 15	3959	80 59 14	3945	82 24 30	3933
	Fomalhaut W.	47 46 40	2770	49 21 47	2746	50 57 26	2723	52 33 35	2708
	JUPITER E.	44 18 30	9449	42 36 5	9444	40 53 33	9441	39 10 56	9438
	Aldebaran E.	51 59 45	9497	50 18 27	9495	48 37 7	9495	46 55 47	9495
	Pollux E.	95 16 39	9403	93 33 8	9396	91 49 28	9391	90 5 40	9384
31	α Aquilæ W.	89 33 55	3193	91 0 13	3188	92 26 36	3187	93 53 1	3186
	Fomalhaut W.	60 40 38	2691	62 19 5	2607	63 57 50	2596	65 36 51	2584
	α Pegasi W.	41 47 39	3138	43 15 3	3094	44 43 32	3036	46 13 0	2983
	Aldebaran E.	38 29 46	9515	36 48 54	9525	35 8 15	9525	33 27 52	9540
	Pollux E.	81 24 41	9359	79 40 8	9355	77 55 28	9350	76 10 42	9346
	SUN E.	127 58 6	9694	126 21 4	9678	124 43 55	9673	123 6 38	9668

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	SATURN W.	101° 12' 47"	9954	102° 43' 57"	9945	104° 15' 19"	9935	105° 46' 54"	9924
	Spica W.	88 59 52	9919	90 31 47	9909	92 3 54	9899	93 36 14	9888
	Antares W.	43 5 38	9917	44 37 35	9906	46 9 44	9896	47 42 6	9887
	Fomalhaut E.	42 41 26	3393	41 19 1	3419	39 56 58	3436	38 35 22	3462
	α Pegasi E.	64 19 25	3396	62 55 44	3398	61 32 5	3330	60 8 28	3334
24	Spica W.	101 21 21	9834	102 55 5	9893	104 29 3	9811	106 3 16	9801
	Antares W.	55 27 24	9839	57 1 10	9891	58 35 10	9899	60 9 26	9798
	α Pegasi E.	53 11 49	3399	51 48 57	3381	50 26 19	3396	49 3 58	3413
	α Arietis E.	93 3 16	9890	91 30 32	9899	89 57 34	9858	88 24 21	9846
25	Spica W.	113 58 3	9743	115 33 46	9739	117 9 44	9790	118 45 57	9708
	Antares W.	68 4 28	9741	69 40 14	9739	71 16 16	9717	72 52 33	9706
	α Pegasi E.	42 18 17	3554	40 58 52	3596	39 40 13	3646	38 22 28	3701
	α Arietis E.	80 34 37	9790	78 59 56	9779	77 25 1	9769	75 49 52	9757
	JUPITER E.	103 43 0	9790	102 8 6	9768	100 32 56	9756	98 57 30	9744
26	Antares W.	80 57 46	9649	82 35 35	9638	84 13 38	9697	85 51 56	9616
	α Arietis E.	67 50 35	9706	66 14 3	9697	64 37 19	9687	63 0 22	9678
	JUPITER E.	90 56 31	9687	89 19 33	9675	87 42 20	9664	86 4 52	9653
	Aldebaran E.	98 20 39	9707	96 44 8	9695	95 7 22	9684	93 30 21	9673
27	Antares W.	94 7 5	9564	95 46 49	9554	97 26 47	9544	99 6 59	9535
	α Aquilæ W.	51 57 35	4093	53 7 43	4017	54 19 6	3946	55 31 39	3891
	α Arietis E.	54 52 41	9638	53 14 37	9639	51 36 25	9625	49 58 4	9619
	JUPITER E.	77 53 54	9601	76 15 0	9591	74 35 53	9581	72 56 32	9572
	Aldebaran E.	85 21 39	9621	83 43 13	9619	82 4 34	9609	80 25 42	9593
28	Antares W.	107 31 13	9489	109 12 41	9481	110 54 21	9473	112 36 12	9465
	α Aquilæ W.	61 49 41	3617	63 7 57	3576	64 26 58	3536	65 46 42	3501
	α Arietis E.	41 44 45	9604	40 5 55	9603	38 27 4	9604	36 48 15	9606
	JUPITER E.	64 36 37	9527	62 56 2	9519	61 15 15	9519	59 34 18	9504
	Aldebaran E.	72 8 27	9553	70 28 27	9546	68 48 18	9539	67 7 59	9533
29	α Aquilæ W.	72 34 31	3355	73 57 39	3339	75 21 14	3311	76 45 13	3299
	Fomalhaut W.	41 32 42	9896	43 5 6	9890	44 38 16	9897	46 12 9	9798
	JUPITER E.	51 6 59	9470	49 25 4	9464	47 43 0	9459	46 0 49	9453
	Aldebaran E.	58 44 24	9507	57 3 21	9504	55 22 13	9501	53 41 1	9498
	Pollux E.	102 9 12	9429	100 26 18	9422	98 43 14	9415	97 0 1	9409
30	α Aquilæ W.	83 50 0	3222	85 15 43	3212	86 41 38	3204	88 7 43	3198
	Fomalhaut W.	54 10 12	9683	55 47 15	9686	57 24 41	9649	59 2 29	9634
	JUPITER E.	37 28 15	9435	35 45 30	9439	34 2 41	9431	32 19 50	9429
	Aldebaran E.	45 14 27	9497	43 33 10	9499	41 51 56	9503	40 10 47	9509
	Pollux E.	88 21 43	9380	86 37 39	9374	84 53 27	9369	83 9 8	9364
31	α Aquilæ W.	95 19 27	3187	96 45 52	3189	98 12 14	3193	99 38 32	3198
	Fomalhaut W.	67 16 8	9574	68 55 39	9565	70 35 22	9556	72 15 17	9546
	α Pegasi W.	47 43 22	9954	49 14 33	9918	50 46 29	9896	52 19 6	9856
	Aldebaran E.	31 47 47	9566	30 8 6	9568	28 28 55	9614	26 50 19	9646
	Pollux E.	74 25 50	9342	72 40 52	9338	70 55 48	9335	69 10 39	9331
	SUN E.	121 29 15	9963	119 51 45	9958	118 14 9	9954	116 36 27	9949

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
Frid.	1	^h 10 ^m 43 ^s 15.18	9.064	N. 8° 6' 56.2"	-54.59	15' 53.76"	64.40	0 14.29	0.791
Sat.	2	10 46 52.57	9.053	7 45 2.0	54.92	15 53.99	64.36	0 33.39	0.801
SUN.	3	10 50 29.71	9.043	7 23 0.1	55.23	15 54.22	64.32	0 52.76	0.812
Mon.	4	10 54 6.61	9.033	7 0 50.8	-55.54	15 54.45	64.29	1 12.35	0.821
Tues.	5	10 57 43.29	9.024	6 38 34.6	55.81	15 54.68	64.25	1 32.17	0.830
Wed.	6	11 1 19.77	9.016	6 16 11.7	56.09	15 54.92	64.22	1 52.19	0.838
Thur.	7	11 4 56.06	9.009	5 53 42.4	-56.34	15 55.16	64.19	2 12.40	0.846
Frid.	8	11 8 32.18	9.002	5 31 7.2	56.59	15 55.40	64.17	2 32.78	0.852
Sat.	9	11 12 8.15	8.996	5 8 26.2	56.82	15 55.65	64.14	2 53.31	0.858
SUN.	10	11 15 43.97	8.990	4 45 40.0	-57.03	15 55.90	64.12	3 13.98	0.864
Mon.	11	11 19 19.67	8.985	4 22 48.8	57.23	15 56.15	64.11	3 34.78	0.869
Tues.	12	11 22 55.26	8.981	3 59 53.0	57.41	15 56.41	64.09	3 55.68	0.873
Wed.	13	11 26 30.76	8.978	3 36 53.0	-57.58	15 56.67	64.08	4 16.69	0.876
Thur.	14	11 30 6.19	8.975	3 13 49.2	57.73	15 56.93	64.07	4 37.75	0.879
Frid.	15	11 33 41.56	8.973	2 50 41.8	57.87	15 57.20	64.07	4 58.88	0.881
Sat.	16	11 37 16.87	8.971	2 27 31.3	-58.00	15 57.46	64.06	5 20.06	0.883
SUN.	17	11 40 52.18	8.971	2 4 18.0	58.11	15 57.73	64.07	5 41.25	0.883
Mon.	18	11 44 27.48	8.971	1 41 2.2	58.20	15 58.00	64.07	6 2.44	0.883
Tues.	19	11 48 2.79	8.972	1 17 44.3	-58.28	15 58.28	64.08	6 23.63	0.888
Wed.	20	11 51 38.15	8.974	0 54 24.6	58.35	15 58.55	64.09	6 44.76	0.890
Thur.	21	11 55 13.56	8.976	0 31 3.4	58.40	15 58.82	64.10	7 5.84	0.877
Frid.	22	11 58 49.05	8.981	N. 0 7 41.2	-58.44	15 59.10	64.12	7 26.85	0.873
Sat.	23	12 2 24.65	8.986	S. 0 15 41.9	58.47	15 59.37	64.13	7 47.75	0.868
SUN.	24	12 6 0.38	8.992	0 39 5.5	58.49	15 59.65	64.16	8 8.52	0.862
Mon.	25	12 9 36.27	8.999	1 2 29.2	-58.49	15 59.92	64.18	8 29.13	0.855
Tues.	26	12 13 12.31	9.007	1 25 52.8	58.48	16 0 19	64.21	8 49.58	0.848
Wed.	27	12 16 48.57	9.016	1 49 16.0	58.45	16 0 47	64.24	9 9.82	0.839
Thur.	28	12 20 25.06	9.025	2 12 38.4	-58.41	16 0 74	64.27	9 29.83	0.829
Frid.	29	12 24 1.79	9.036	2 35 59.7	58.36	16 1 01	64.31	9 49.60	0.818
Sat.	30	12 27 38.80	9.048	2 59 19.6	58.29	16 1 28	64.35	10 9.09	0.806
SUN.	31	12 31 16.09	9.061	S. 3 22 37.8	-58.21	16 1 55	64.39	10 28.30	0.794

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.
 The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing;
 south declinations, increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] [″]	[″]	^m ^s	^s	^h ^m ^s
Frid.	1	10 43 15.21	9.066	N. 8 6 56.0	-54.61	0 14.29	0.791	10 43 29.50
Sat.	2	10 46 52.65	9.055	7 45 1.4	54.93	0 33.40	0.802	10 47 26.05
SUN.	3	10 50 29.84	9.045	7 22 59.2	55.24	0 52.77	0.812	10 51 22.61
Mon.	4	10 54 6.79	9.035	7 0 49.7	-55.54	1 12.37	0.821	10 55 19.16
Tues.	5	10 57 43.52	9.026	6 38 33.1	55.83	1 32.19	0.830	10 59 15.71
Wed.	6	11 1 20.05	9.018	6 16 9.9	56.10	1 52.22	0.838	11 3 12.27
Thur.	7	11 4 56.39	9.011	5 53 40.3	-56.36	2 12.43	0.846	11 7 8.82
Frid.	8	11 8 32.56	9.004	5 31 4.7	56.60	2 32.82	0.852	11 11 5.38
Sat.	9	11 12 8.58	8.998	5 8 23.4	56.83	2 53.35	0.859	11 15 1.93
SUN.	10	11 15 44.45	8.992	4 45 36.9	-57.04	3 14.03	0.864	11 18 58.48
Mon.	11	11 19 20.21	8.987	4 22 45.3	57.24	3 34.83	0.869	11 22 55.04
Tues.	12	11 22 55.85	8.983	3 59 49.2	57.42	3 55.74	0.873	11 26 51.59
Wed.	13	11 26 31.40	8.980	3 36 48.9	-57.59	4 16.75	0.877	11 30 48.15
Thur.	14	11 30 6.88	8.977	3 13 44.7	57.75	4 37.82	0.879	11 34 44.70
Frid.	15	11 33 42.30	8.975	2 50 37.0	57.89	4 58.95	0.882	11 38 41.25
Sat.	16	11 37 17.67	8.974	2 27 26.1	-58.01	5 20.14	0.883	11 42 37.81
SUN.	17	11 40 53.03	8.973	2 4 12.4	58.12	5 41.33	0.883	11 46 34.36
Mon.	18	11 44 28.38	8.973	1 40 56.3	58.22	6 2.53	0.883	11 50 30.91
Tues.	19	11 48 3.75	8.975	1 17 38.0	-58.30	6 23.72	0.882	11 54 27.47
Wed.	20	11 51 39.16	8.977	0 54 18.0	58.36	6 44.87	0.880	11 58 24.02
Thur.	21	11 55 14.62	8.979	0 30 56.5	58.42	7 5.96	0.877	12 2 20.58
Frid.	22	11 58 50.17	8.983	N. 0 7 33.9	-58.46	7 26.96	0.873	12 6 17.13
Sat.	23	12 2 25.82	8.988	S. 0 15 49.5	58.49	7 47.86	0.868	12 10 13.68
SUN.	24	12 6 1.60	8.994	0 39 13.5	58.50	8 8.64	0.862	12 14 10.24
Mon.	25	12 9 37.54	9.001	1 2 37.5	-58.50	8 29.25	0.855	12 18 6.79
Tues.	26	12 13 13.64	9.009	1 26 1.4	58.49	8 49.70	0.848	12 22 3.34
Wed.	27	12 16 49.95	9.018	1 49 24.9	58.46	9 9.95	0.839	12 25 59.90
Thur.	28	12 20 26.49	9.028	2 12 47.7	-58.42	9 29.96	0.829	12 29 56.45
Frid.	29	12 24 3.27	9.038	2 36 9.3	58.37	9 49.73	0.818	12 33 53.00
Sat.	30	12 27 40.33	9.050	2 59 29.5	58.30	10 9.23	0.807	12 37 49.56
SUN.	31	12 31 17.67	9.063	S. 3 22 47.9	-58.22	10 28.44	0.794	12 41 46.11

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that north declinations are decreasing; south declinations, increasing.

Diff. for 1 Hour
+ 9^m.8565.
(Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S					Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	244	159° 13' 58.7	13 30.5	145.28	+ 0.28	0.0037352	-42.9	13 14 20.01	
2	245	160 12 6.3	11 38.0	145.36	0.39	0.0036319	43.2	13 10 24.11	
3	246	161 10 15.9	9 47.5	145.44	0.48	0.0035277	43.6	13 6 28.19	
4	247	162 8 27.6	7 59.1	145.53	+ 0.54	0.0034224	-44.1	13 2 32.29	
5	248	163 6 41.3	6 12.6	145.61	0.57	0.0033159	44.6	12 58 36.39	
6	249	164 4 57.0	4 28.2	145.70	0.58	0.0032081	45.2	12 54 40.47	
7	250	165 3 14.7	2 45.8	145.78	+ 0.56	0.0030989	-45.8	12 50 44.57	
8	251	166 1 34.3	1 5.3	145.86	0.51	0.0029883	46.4	12 46 48.65	
9	252	166 59 55.9	59 26.8	145.94	0.43	0.0028762	47.0	12 42 52.75	
10	253	167 58 19.5	57 50.3	146.02	+ 0.32	0.0027626	-47.6	12 38 56.84	
11	254	168 56 45.0	56 15.6	146.10	0.20	0.0026475	48.2	12 35 0.93	
12	255	169 55 12.2	54 42.7	146.17	+ 0.06	0.0025311	48.8	12 31 5.03	
13	256	170 53 41.2	53 11.6	146.24	- 0.07	0.0024133	-49.4	12 27 9.11	
14	257	171 52 11.9	51 42.2	146.32	0.20	0.0022942	49.9	12 23 13.21	
15	258	172 50 44.4	50 14.6	146.39	0.32	0.0021740	50.3	12 19 17.30	
16	259	173 49 18.6	48 48.7	146.46	- 0.42	0.0020528	-50.8	12 15 21.39	
17	260	174 47 54.5	47 24.5	146.53	0.51	0.0019306	51.1	12 11 25.49	
18	261	175 46 32.0	46 1.8	146.60	0.58	0.0018076	51.4	12 7 29.58	
19	262	176 45 11.2	44 40.9	146.67	- 0.61	0.0016840	-51.6	12 3 33.67	
20	263	177 43 52.0	43 21.6	146.74	0.60	0.0015601	51.7	11 59 37.76	
21	264	178 42 34.5	42 4.0	146.81	0.57	0.0014360	51.7	11 55 41.85	
22	265	179 41 18.8	40 48.2	146.89	- 0.51	0.0013118	-51.8	11 51 45.95	
23	266	180 40 5.0	39 34.3	146.96	0.43	0.0011876	51.7	11 47 50.04	
24	267	181 38 53.0	38 22.2	147.04	0.32	0.0010636	51.6	11 43 54.18	
25	268	182 37 42.9	37 12.0	147.12	- 0.20	0.0009398	-51.5	11 39 58.22	
26	269	183 36 34.8	36 3.8	147.20	- 0.07	0.0008163	51.4	11 36 2.30	
27	270	184 35 28.7	34 57.6	147.29	+ 0.06	0.0006931	51.3	11 32 6.40	
28	271	185 34 24.8	33 53.6	147.38	+ 0.19	0.0005701	- 51.2	11 28 10.50	
29	272	186 33 23.1	32 51.7	147.48	0.30	0.0004473	51.1	11 24 14.60	
30	273	187 32 23.7	31 52.2	147.57	0.39	0.0003247	51.0	11 20 18.68	
31	274	188 31 26.5	30 54.9	147.67	+ 0.46	0.0002023	- 51.0	11 16 22.78	
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 ^h .0.									Diff. for 1 Hour, — 9 ^s .8296. (Table II.)

GREENWICH MEAN TIME.

THE MOON'S

Day of the Month.	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
							^h ^m	^m	^d
1	16' 5.9	16' 7.6	58' 58.3	+0.57	59' 4.6	+0.48	16 37.1	2.31	20.6
2	16 9.0	16 10.1	59 9.8	0.38	59 13.8	0.29	17 34.6	2.48	21.6
3	16 10.9	16 11.3	59 16.7	+0.19	59 18.3	+0.08	18 36.0	2.61	22.6
4	16 11.4	16 11.2	59 18.7	-0.02	59 17.8	-0.13	19 39.1	2.62	23.6
5	16 10.6	16 9.5	59 15.5	0.26	59 11.6	0.39	20 41.3	2.53	24.6
6	16 8.0	16 6.1	59 6.1	0.53	58 59.0	0.66	21 39.9	2.35	25.6
7	16 3.7	16 0.8	58 50.2	-0.81	58 39.6	-0.95	22 34.2	2.17	26.6
8	15 57.4	15 53.7	58 27.3	1.09	58 13.4	1.22	23 24.0	2.00	27.6
9	15 49.5	15 44.9	57 58.0	1.34	57 41.3	1.43	6		28.6
10	15 40.1	15 35.1	57 23.6	-1.51	57 5.1	-1.56	0 10.5	1.88	0.2
11	15 29.9	15 24.7	56 46.1	1.59	56 26.9	1.59	0 54.6	1.80	1.2
12	15 19.5	15 14.5	56 7.9	1.56	55 49.5	1.50	1 37.6	1.78	2.2
13	15 9.7	15 5.2	55 31.9	-1.42	55 15.5	-1.31	2 20.6	1.80	3.2
14	15 1.1	14 57.5	55 0.5	1.18	54 47.3	1.02	3 4.6	1.86	4.2
15	14 54.5	14 52.0	54 36.0	0.85	54 26.9	0.66	3 50.2	1.95	5.2
16	14 50.1	14 48.9	54 20.1	-0.47	54 15.7	-0.26	4 38.0	2.04	6.2
17	14 48.5	14 48.7	54 13.9	-0.04	54 14.7	+0.18	5 27.9	2.12	7.2
18	14 49.6	14 51.3	54 18.1	+0.40	54 24.2	0.61	6 19.2	2.16	8.2
19	14 53.6	14 56.6	54 32.7	+0.81	54 43.7	+1.01	7 11.4	2.17	9.2
20	15 0.2	15 4.4	54 57.0	1.20	55 12.5	1.37	8 2.9	2.12	10.2
21	15 9.1	15 14.3	55 29.8	1.51	55 48.7	1.64	8 53.2	2.05	11.2
22	15 19.8	15 25.5	56 9.1	+1.73	56 30.1	+1.78	9 41.5	1.98	12.2
23	15 31.4	15 37.4	56 51.8	1.82	57 13.7	1.81	10 28.4	1.93	13.2
24	15 43.3	15 49.0	57 35.3	1.77	57 56.1	1.69	11 14.5	1.91	14.2
25	15 54.3	15 59.3	58 15.9	+1.58	58 34.1	+1.44	12 0.6	1.94	15.2
26	16 3.8	16 7.6	58 50.5	1.28	59 4.7	1.09	12 47.9	2.02	16.2
27	16 10.9	16 13.4	59 16.6	0.89	59 26.0	0.68	13 37.8	2.14	17.2
28	16 15.3	16 16.5	59 32.9	+0.47	59 37.2	+0.26	14 31.2	2.31	18.2
29	16 17.0	16 16.9	59 39.1	+0.07	59 38.8	-0.12	15 28.7	2.48	19.2
30	16 16.2	16 15.1	59 36.3	-0.28	59 32.0	0.43	16 29.9	2.60	20.2
31	16 13.5	16 11.5	59 26.1	-0.55	59 18.8	-0.66	17 32.9	2.63	21.2

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	2 44 26.65	2.9803	N.18° 7' 38.9"	13.989	0	4 41 29.15	2.5889	N.26° 21' 24.7"	6.688
1	2 46 43.66	2.9807	18 20 51.7	13.104	1	4 44 4.60	2.5934	26 28 0.8	6.514
2	2 49 1.06	2.9831	18 33 58.6	13.064	2	4 46 40.36	2.5986	26 34 26.4	6.338
3	2 51 18.84	2.9896	18 46 59.4	12.969	3	4 49 16.43	2.6036	26 40 41.4	6.162
4	2 53 37.01	2.3008	18 59 54.1	12.860	4	4 51 52.79	2.6084	26 46 45.8	5.984
5	2 55 55.58	2.3127	19 12 42.6	12.756	5	4 54 29.44	2.6132	26 52 39.5	5.805
6	2 58 14.54	2.3193	19 25 24.8	12.649	6	4 57 6.38	2.6179	26 58 22.4	5.624
7	3 0 33.89	2.3258	19 38 0.5	12.541	7	4 59 43.59	2.6224	27 3 54.4	5.443
8	3 2 53.64	2.3325	19 50 29.7	12.432	8	5 2 21.07	2.6267	27 9 15.5	5.261
9	3 5 13.79	2.3393	20 2 52.3	12.320	9	5 4 58.80	2.6310	27 14 25.7	5.077
10	3 7 34.34	2.3458	20 15 8.1	12.207	10	5 7 36.79	2.6352	27 19 24.8	4.892
11	3 9 55.29	2.3525	20 27 17.1	12.093	11	5 10 15.03	2.6393	27 24 12.8	4.707
12	3 12 16.64	2.3593	20 39 19.2	11.976	12	5 12 53.50	2.6431	27 28 49.6	4.520
13	3 14 38.40	2.3660	20 51 14.2	11.857	13	5 15 32.20	2.6468	27 33 15.2	4.333
14	3 17 0.56	2.3727	21 3 2.0	11.737	14	5 18 11.12	2.6504	27 37 29.5	4.145
15	3 19 23.12	2.3794	21 14 42.6	11.615	15	5 20 50.25	2.6538	27 41 32.6	3.957
16	3 21 46.09	2.3862	21 26 15.8	11.492	16	5 23 29.58	2.6571	27 45 24.3	3.766
17	3 24 9.47	2.3930	21 37 41.6	11.367	17	5 26 9.10	2.6602	27 49 4.5	3.575
18	3 26 33.25	2.3998	21 48 59.9	11.241	18	5 28 48.81	2.6632	27 52 33.3	3.384
19	3 28 57.44	2.4066	22 0 10.5	11.112	19	5 31 28.69	2.6660	27 55 50.6	3.192
20	3 31 22.04	2.4133	22 11 13.3	10.981	20	5 34 8.73	2.6687	27 58 56.3	2.999
21	3 33 47.04	2.4201	22 22 8.2	10.849	21	5 36 48.93	2.6712	28 1 50.5	2.806
22	3 36 12.45	2.4268	22 32 55.2	10.716	22	5 39 29.27	2.6735	28 4 33.0	2.612
23	3 38 38.26	2.4335	N.22° 43' 34.1"	10.581	23	5 42 9.75	2.6757	N.28° 7' 3.9"	2.417
SATURDAY 2.					MONDAY 4.				
0	3 41 4.47	2.4403	N.22° 54' 4.9"	10.444	0	5 44 50.36	2.6777	N.28° 9' 23.1"	2.222
1	3 43 31.09	2.4470	23 4 27.4	10.305	1	5 47 31.08	2.6795	28 11 30.6	2.027
2	3 45 58.11	2.4537	23 14 41.5	10.165	2	5 50 11.90	2.6812	28 13 26.3	1.831
3	3 48 25.53	2.4603	23 24 47.2	10.023	3	5 52 52.82	2.6827	28 15 10.3	1.635
4	3 50 53.35	2.4670	23 34 44.3	9.880	4	5 55 33.82	2.6840	28 16 42.5	1.438
5	3 53 21.57	2.4736	23 44 32.8	9.735	5	5 58 14.90	2.6852	28 18 2.9	1.241
6	3 55 50.18	2.4801	23 54 12.5	9.588	6	6 0 56.04	2.6861	28 19 11.4	1.044
7	3 58 19.18	2.4866	24 3 43.3	9.439	7	6 3 37.23	2.6869	28 20 8.1	0.847
8	4 0 48.57	2.4931	24 13 5.2	9.290	8	6 6 18.47	2.6875	28 20 53.0	0.649
9	4 3 18.36	2.4996	24 22 18.1	9.139	9	6 8 59.73	2.6879	28 21 26.0	0.451
10	4 5 48.53	2.5059	24 31 21.9	8.986	10	6 11 41.01	2.6882	28 21 47.1	0.253
11	4 8 19.07	2.5122	24 40 16.4	8.831	11	6 14 22.31	2.6883	28 21 56.4	+ 0.056
12	4 10 49.99	2.5185	24 49 1.6	8.675	12	6 17 3.61	2.6882	28 21 53.8	- 0.142
13	4 13 21.29	2.5247	24 57 37.4	8.517	13	6 19 44.90	2.6879	28 21 39.3	0.340
14	4 15 52.96	2.5309	25 6 3.7	8.358	14	6 22 26.16	2.6874	28 21 13.0	0.536
15	4 18 25.00	2.5370	25 14 20.4	8.197	15	6 25 7.39	2.6867	28 20 34.8	0.736
16	4 20 57.40	2.5430	25 22 27.4	8.035	16	6 27 48.57	2.6859	28 19 44.7	0.933
17	4 23 30.16	2.5490	25 30 24.6	7.872	17	6 30 29.70	2.6850	28 18 42.8	1.130
18	4 26 3.28	2.5549	25 38 12.0	7.707	18	6 33 10.77	2.6838	28 17 29.1	1.327
19	4 28 36.75	2.5607	25 45 49.5	7.541	19	6 35 51.76	2.6824	28 16 3.6	1.523
20	4 31 10.56	2.5663	25 53 16.9	7.372	20	6 38 32.66	2.6809	28 14 26.3	1.719
21	4 33 44.71	2.5719	26 0 34.2	7.203	21	6 41 13.47	2.6792	28 12 37.2	1.916
22	4 36 19.19	2.5775	26 7 41.3	7.033	22	6 43 54.17	2.6773	28 10 36.4	2.111
23	4 38 54.01	2.5830	26 14 38.2	6.862	23	6 46 34.75	2.6759	28 8 23.9	2.306
24	4 41 29.15	2.5882	N.26° 21' 24.7"	6.688	24	6 49 15.20	2.6730	N.28° 5' 59.7"	2.501

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
0	^h 6 ^m 49 ^s 15.20	2.6730	N. 28° 5' 59".7	2.501	0	^h 8 ^m 52 ^s 20.40	2.4102	N. 22° 40' 13".6	10.564
1	6 51 55.51	2.6707	28 3 23.8	2.695	1	8 54 45.16	2.4091	22 29 35.8	10.695
2	6 54 35.68	2.6689	28 0 36.3	2.688	2	8 57 9.49	2.4080	22 18 50.2	10.824
3	6 57 15.69	2.6654	27 57 37.3	3.080	3	8 59 33.40	2.3949	22 7 56.9	10.959
4	6 59 55.53	2.6625	27 54 26.7	3.972	4	9 1 56.88	2.3877	21 56 56.0	11.078
5	7 2 35.19	2.6595	27 51 4.6	3.464	5	9 4 19.92	2.3804	21 45 47.6	11.202
6	7 5 14.67	2.6563	27 47 31.0	3.655	6	9 6 42.53	2.3732	21 34 31.8	11.324
7	7 7 53.95	2.6539	27 43 46.0	3.845	7	9 9 4.71	2.3660	21 23 8.7	11.444
8	7 10 33.02	2.6493	27 39 49.6	4.033	8	9 11 26.45	2.3588	21 11 38.5	11.563
9	7 13 11.87	2.6457	27 35 42.0	4.221	9	9 13 47.76	2.3516	21 0 1.2	11.680
10	7 15 50.50	2.6419	27 31 23.1	4.408	10	9 16 8.64	2.3443	20 48 16.9	11.795
11	7 18 28.90	2.6379	27 26 53.0	4.595	11	9 18 29.08	2.3371	20 36 25.8	11.908
12	7 21 7.05	2.6337	27 22 11.7	4.781	12	9 20 49.09	2.3299	20 24 27.9	12.020
13	7 23 44.95	2.6295	27 17 19.3	4.965	13	9 23 8.67	2.3227	20 12 23.4	12.130
14	7 26 22.59	2.6252	27 12 15.9	5.148	14	9 25 27.82	2.3156	20 0 12.3	12.238
15	7 28 59.97	2.6207	27 7 1.6	5.330	15	9 27 46.54	2.3085	19 47 54.9	12.343
16	7 31 37.07	2.6159	27 1 36.3	5.512	16	9 30 4.84	2.3014	19 35 31.2	12.448
17	7 34 13.88	2.6111	26 56 0.2	5.691	17	9 32 22.71	2.2943	19 23 1.2	12.551
18	7 36 50.40	2.6063	26 50 13.4	5.869	18	9 34 40.15	2.2872	19 10 25.1	12.652
19	7 39 26.62	2.6019	26 44 15.9	6.047	19	9 36 57.17	2.2802	18 57 43.0	12.750
20	7 42 2.54	2.5980	26 38 7.7	6.224	20	9 39 13.77	2.2732	18 44 55.1	12.847
21	7 44 38.14	2.5907	26 31 49.0	6.399	21	9 41 29.95	2.2662	18 32 1.4	12.942
22	7 47 13.42	2.5853	26 25 19.8	6.573	22	9 43 45.71	2.2592	18 19 2.0	13.036
23	7 49 48.38	2.5798	N. 26 18 40.3	6.744	23	9 46 1.05	2.2522	N. 18 5 57.1	13.127
WEDNESDAY 6.					FRIDAY 8.				
0	7 52 23.00	2.5749	N. 26 11 50.5	6.916	0	9 48 15.98	2.2454	N. 17 52 46.7	13.217
1	7 54 57.28	2.5685	26 4 50.4	7.086	1	9 50 30.50	2.2386	17 39 31.0	13.306
2	7 57 31.22	2.5627	25 57 40.2	7.254	2	9 52 44.61	2.2318	17 26 10.0	13.392
3	8 0 4.80	2.5567	25 50 19.9	7.422	3	9 54 58.32	2.2251	17 12 43.9	13.477
4	8 2 38.02	2.5507	25 42 49.6	7.587	4	9 57 11.62	2.2184	16 59 12.8	13.560
5	8 5 10.88	2.5446	25 35 9.5	7.750	5	9 59 24.52	2.2117	16 45 36.7	13.642
6	8 7 43.37	2.5384	25 27 19.6	7.912	6	10 1 37.02	2.2051	16 31 55.8	13.721
7	8 10 15.48	2.5321	25 19 20.0	8.073	7	10 3 49.13	2.1985	16 18 10.2	13.798
8	8 12 47.22	2.5258	25 11 10.8	8.233	8	10 6 0.84	2.1920	16 4 20.0	13.875
9	8 15 18.58	2.5194	25 2 52.0	8.392	9	10 8 12.17	2.1856	15 50 25.2	13.950
10	8 17 49.55	2.5129	24 54 23.8	8.548	10	10 10 23.11	2.1792	15 36 26.0	14.022
11	8 20 20.12	2.5063	24 45 46.3	8.703	11	10 12 33.67	2.1728	15 22 22.6	14.092
12	8 22 50.30	2.4997	24 36 59.5	8.856	12	10 14 43.84	2.1664	15 8 15.0	14.161
13	8 25 20.08	2.4930	24 28 3.6	9.007	13	10 16 53.64	2.1600	14 54 3.3	14.229
14	8 27 49.46	2.4862	24 18 58.6	9.157	14	10 19 3.07	2.1541	14 39 47.5	14.296
15	8 30 18.42	2.4793	24 9 44.7	9.305	15	10 21 12.13	2.1479	14 25 27.8	14.360
16	8 32 46.97	2.4725	24 0 22.0	9.452	16	10 23 20.82	2.1419	14 11 4.3	14.422
17	8 35 15.12	2.4657	23 50 50.5	9.597	17	10 25 29.16	2.1360	13 56 37.2	14.482
18	8 37 42.86	2.4588	23 41 10.3	9.741	18	10 27 37.14	2.1300	13 42 6.5	14.541
19	8 40 10.18	2.4518	23 31 21.6	9.889	19	10 29 44.76	2.1242	13 27 32.3	14.598
20	8 42 37.07	2.4447	23 21 24.5	10.029	20	10 31 52.04	2.1184	13 12 54.7	14.655
21	8 45 3.54	2.4377	23 11 19.0	10.160	21	10 33 58.97	2.1127	12 58 13.7	14.710
22	8 47 29.59	2.4306	23 1 5.3	10.296	22	10 36 5.56	2.1070	12 43 29.5	14.762
23	8 49 55.21	2.4234	22 50 43.5	10.431	23	10 38 11.81	2.1013	12 28 42.2	14.813
24	8 52 20.40	2.4162	N. 22 40 13.6	10.564	24	10 40 17.72	2.0957	N. 12 13 51.9	14.863

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	10 40 17.72	2.0957	N. 12° 13' 51.9"	14.883	0	12 15 56.42	1.9189	S. 0° 8' 46.6"	15.567
1	10 42 23.30	2.0903	11 58 58.7	14.911	1	12 17 51.50	1.9171	0 24 20.1	15.551
2	10 44 28.56	2.0850	11 44 2.6	14.957	2	12 19 46.48	1.9154	0 39 52.7	15.534
3	10 46 33.50	2.0797	11 29 3.8	15.009	3	12 21 41.35	1.9138	0 55 24.2	15.516
4	10 48 38.12	2.0744	11 14 2.4	15.045	4	12 23 36.13	1.9122	1 10 54.6	15.498
5	10 50 42.43	2.0692	10 58 58.4	15.087	5	12 25 30.82	1.9107	1 26 23.7	15.474
6	10 52 46.43	2.0642	10 43 52.0	15.127	6	12 27 25.42	1.9093	1 41 51.5	15.453
7	10 54 50.13	2.0592	10 28 43.2	15.166	7	12 29 19.94	1.9080	1 57 18.0	15.431
8	10 56 53.53	2.0543	10 13 32.1	15.203	8	12 31 14.38	1.9067	2 12 43.2	15.408
9	10 58 56.63	2.0493	9 58 18.9	15.238	9	12 33 8.74	1.9054	2 28 6.9	15.383
10	11 0 59.44	2.0445	9 43 3.6	15.279	10	12 35 3.03	1.9043	2 43 29.1	15.357
11	11 3 1.97	2.0398	9 27 46.3	15.305	11	12 36 57.26	1.9033	2 58 49.7	15.330
12	11 5 4.21	2.0351	9 12 27.0	15.337	12	12 38 51.43	1.9023	3 14 8.7	15.302
13	11 7 6.18	2.0306	8 57 5.9	15.366	13	12 40 45.54	1.9014	3 29 26.0	15.273
14	11 9 7.88	2.0260	8 41 43.1	15.393	14	12 42 39.60	1.9007	3 44 41.5	15.243
15	11 11 9.30	2.0215	8 26 18.7	15.420	15	12 44 33.62	1.8999	3 59 55.2	15.213
16	11 13 10.46	2.0172	8 10 52.7	15.447	16	12 46 27.59	1.8992	4 15 7.0	15.180
17	11 15 11.37	2.0130	7 55 25.1	15.471	17	12 48 21.52	1.8985	4 30 16.9	15.147
18	11 17 12.02	2.0088	7 39 56.2	15.493	18	12 50 15.41	1.8979	4 45 24.7	15.113
19	11 19 12.42	2.0047	7 24 26.0	15.514	19	12 52 9.27	1.8975	5 0 30.5	15.079
20	11 21 12.58	2.0006	7 8 54.5	15.534	20	12 54 3.11	1.8972	5 15 34.2	15.043
21	11 23 12.49	1.9966	6 53 21.9	15.553	21	12 55 56.93	1.8969	5 30 35.7	15.007
22	11 25 12.17	1.9927	6 37 48.2	15.570	22	12 57 50.73	1.8966	5 45 35.0	14.968
23	11 27 11.62	1.9889	N. 6° 22' 13.5"	15.586	23	12 59 44.52	1.8963	S. 6° 0' 32.0"	14.926
SUNDAY 10.					TUESDAY 12.				
0	11 29 10.84	1.9852	N. 6° 6' 37.9"	15.600	0	13 1 38.29	1.8969	S. 6° 15' 26.6"	14.890
1	11 31 9.84	1.9815	5 51 1.5	15.613	1	13 3 32.06	1.8969	6 30 18.8	14.850
2	11 33 8.62	1.9779	5 35 24.3	15.625	2	13 5 25.83	1.8969	6 45 8.6	14.808
3	11 35 7.19	1.9745	5 19 46.5	15.635	3	13 7 19.60	1.8963	6 59 55.8	14.765
4	11 37 5.56	1.9711	5 4 8.1	15.644	4	13 9 13.38	1.8964	7 14 40.4	14.722
5	11 39 3.72	1.9677	4 48 29.2	15.652	5	13 11 7.17	1.8966	7 29 22.4	14.678
6	11 41 1.68	1.9644	4 32 49.9	15.658	6	13 13 0.97	1.8968	7 44 1.8	14.633
7	11 42 59.44	1.9612	4 17 10.3	15.663	7	13 14 54.79	1.8972	7 58 38.4	14.587
8	11 44 57.02	1.9582	4 1 30.3	15.668	8	13 16 48.64	1.8976	8 13 12.2	14.539
9	11 46 54.42	1.9552	3 45 50.1	15.671	9	13 18 42.51	1.8981	8 27 43.1	14.491
10	11 48 51.64	1.9522	3 30 9.8	15.672	10	13 20 36.41	1.8987	8 42 11.2	14.443
11	11 50 48.68	1.9493	3 14 29.5	15.673	11	13 22 30.35	1.8993	8 56 36.3	14.393
12	11 52 45.55	1.9464	2 58 49.2	15.671	12	13 24 24.32	1.8999	9 10 58.4	14.348
13	11 54 42.25	1.9437	2 43 9.0	15.668	13	13 26 18.34	1.9007	9 25 17.4	14.299
14	11 56 38.80	1.9411	2 27 29.0	15.665	14	13 28 12.41	1.9015	9 39 33.3	14.250
15	11 58 35.19	1.9385	2 11 49.2	15.661	15	13 30 6.52	1.9023	9 53 46.1	14.197
16	12 0 31.42	1.9360	1 56 9.7	15.655	16	13 32 0.69	1.9033	10 7 55.7	14.143
17	12 2 27.51	1.9336	1 40 30.6	15.648	17	13 33 54.92	1.9043	10 22 2.0	14.077
18	12 4 23.46	1.9313	1 24 51.9	15.641	18	13 35 49.20	1.9053	10 36 4.9	14.000
19	12 6 19.27	1.9291	1 9 13.7	15.631	19	13 37 43.55	1.9064	10 50 4.4	13.914
20	12 8 14.95	1.9269	0 53 36.2	15.619	20	13 39 37.97	1.9076	11 4 0.6	13.827
21	12 10 10.50	1.9247	0 37 59.4	15.608	21	13 41 32.46	1.9088	11 17 53.3	13.748
22	12 12 5.92	1.9227	0 22 23.3	15.596	22	13 43 27.03	1.9102	11 31 42.4	13.670
23	12 14 1.23	1.9208	N. 0° 6' 47.9"	15.582	23	13 45 21.68	1.9115	11 45 28.0	13.590
24	12 15 56.42	1.9189	S. 0° 8' 46.6"	15.567	24	13 47 16.41	1.9129	S. 11° 59' 10.0"	13.509

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	13 47 16.41	1.9189	S. 11° 59' 10.0"	13.669	0	15 21 40.03	2.0358	S. 21° 30' 0.5"	9.891
1	13 49 11.23	1.9144	12 12 48.3	13.607	1	15 23 42.28	2.0399	21 39 46.8	9.799
2	13 51 6.14	1.9159	12 26 22.8	13.544	2	15 25 44.73	2.0496	21 49 27.2	9.693
3	13 53 1.14	1.9174	12 39 53.6	13.481	3	15 27 47.39	2.0460	21 59 1.6	9.593
4	13 54 56.23	1.9191	12 53 20.6	13.417	4	15 29 50.25	2.0494	22 8 29.9	9.492
5	13 56 51.43	1.9208	13 6 43.7	13.359	5	15 31 53.32	2.0589	22 17 52.2	9.391
6	13 58 46.73	1.9225	13 20 2.9	13.297	6	15 33 56.60	2.0633	22 27 8.4	9.218
7	14 0 42.13	1.9243	13 33 18.1	13.230	7	15 36 0.08	2.0597	22 36 18.4	9.115
8	14 2 37.65	1.9262	13 46 29.3	13.159	8	15 38 3.77	2.0639	22 45 22.2	9.012
9	14 4 33.28	1.9281	13 59 36.4	13.084	9	15 40 7.67	2.0667	22 54 19.8	8.908
10	14 6 29.02	1.9300	14 12 39.4	13.015	10	15 42 11.78	2.0709	23 3 11.2	8.803
11	14 8 24.88	1.9321	14 25 38.2	12.945	11	15 44 16.10	2.0736	23 11 56.2	8.697
12	14 10 20.87	1.9342	14 38 32.8	12.875	12	15 46 20.62	2.0771	23 20 34.8	8.590
13	14 12 16.98	1.9363	14 51 23.2	12.803	13	15 48 25.35	2.0807	23 29 7.0	8.483
14	14 14 13.22	1.9384	15 4 9.2	12.731	14	15 50 30.30	2.0843	23 37 32.8	8.376
15	14 16 9.59	1.9407	15 16 50.9	12.658	15	15 52 35.46	2.0877	23 45 52.1	8.267
16	14 18 6.10	1.9429	15 29 28.2	12.584	16	15 54 40.83	2.0919	23 54 4.9	8.158
17	14 20 2.74	1.9452	15 42 1.0	12.510	17	15 56 46.40	2.0947	24 2 11.1	8.048
18	14 21 59.52	1.9475	15 54 29.4	12.435	18	15 58 52.19	2.0989	24 10 10.7	7.937
19	14 23 56.44	1.9499	16 6 53.2	12.359	19	16 0 58.19	2.1017	24 18 3.6	7.826
20	14 25 53.51	1.9524	16 19 12.4	12.282	20	16 3 4.39	2.1051	24 25 49.8	7.715
21	14 27 50.73	1.9549	16 31 27.0	12.204	21	16 5 10.80	2.1086	24 33 29.4	7.603
22	14 29 48.10	1.9574	16 43 36.9	12.125	22	16 7 17.42	2.1121	24 41 2.2	7.490
23	14 31 45.62	1.9599	S. 16 55 42.0	12.046	23	16 9 24.25	2.1156	S. 24 48 28.2	7.376
THURSDAY 14.					SATURDAY 16.				
0	14 33 43.29	1.9625	S. 17 7 42.4	11.967	0	16 11 31.29	2.1190	S. 24 55 47.3	7.261
1	14 35 41.12	1.9652	17 19 38.0	11.886	1	16 13 38.53	2.1224	25 2 59.5	7.146
2	14 37 39.12	1.9680	17 31 28.7	11.804	2	16 15 45.98	2.1259	25 10 4.8	7.031
3	14 39 37.28	1.9707	17 43 14.4	11.721	3	16 17 53.64	2.1293	25 17 3.2	6.915
4	14 41 35.60	1.9734	17 54 55.2	11.638	4	16 20 1.50	2.1327	25 23 54.6	6.797
5	14 43 34.09	1.9762	18 6 31.0	11.555	5	16 22 9.56	2.1360	25 30 38.9	6.679
6	14 45 32.75	1.9791	18 18 1.8	11.471	6	16 24 17.82	2.1394	25 37 16.1	6.561
7	14 47 31.58	1.9820	18 29 27.5	11.385	7	16 26 26.29	2.1427	25 43 46.2	6.442
8	14 49 30.59	1.9850	18 40 48.0	11.299	8	16 28 34.95	2.1460	25 50 9.2	6.323
9	14 51 29.78	1.9879	18 52 3.3	11.212	9	16 30 43.81	2.1493	25 56 25.0	6.203
10	14 53 29.14	1.9909	19 3 13.4	11.124	10	16 32 52.87	2.1526	26 2 33.6	6.083
11	14 55 28.69	1.9940	19 14 18.2	11.036	11	16 35 2.12	2.1559	26 8 34.9	5.962
12	14 57 28.42	1.9970	19 25 17.7	10.947	12	16 37 11.57	2.1591	26 14 29.0	5.840
13	14 59 28.33	2.0001	19 36 11.8	10.857	13	16 39 21.21	2.1622	26 20 15.7	5.718
14	15 1 28.43	2.0032	19 47 0.5	10.767	14	16 41 31.04	2.1653	26 25 55.1	5.595
15	15 3 28.72	2.0064	19 57 43.8	10.676	15	16 43 41.05	2.1684	26 31 27.1	5.471
16	15 5 29.20	2.0096	20 8 21.6	10.583	16	16 45 51.25	2.1715	26 36 51.6	5.347
17	15 7 29.87	2.0128	20 18 53.8	10.490	17	16 48 1.63	2.1746	26 42 8.7	5.222
18	15 9 30.73	2.0160	20 29 20.4	10.397	18	16 50 12.20	2.1777	26 47 18.3	5.097
19	15 11 31.79	2.0192	20 39 41.4	10.303	19	16 52 22.95	2.1808	26 52 20.4	4.979
20	15 13 33.04	2.0225	20 49 56.7	10.208	20	16 54 33.87	2.1835	26 57 14.9	4.845
21	15 15 34.49	2.0258	21 0 6.4	10.113	21	16 56 44.97	2.1864	27 2 1.8	4.718
22	15 17 36.14	2.0291	21 10 10.3	10.016	22	16 58 56.24	2.1893	27 6 41.1	4.591
23	15 19 37.99	2.0324	21 20 8.3	9.918	23	17 1 7.68	2.1921	27 11 12.7	4.463
24	15 21 40.03	2.0358	S. 21 30 0.5	9.821	24	17 3 19.29	2.1948	S. 27 15 36.6	4.334

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	17 3 19.29	2.1948	S. 27 15 36.6	4.334	0	18 50 47.22	2.2577	S. 26 8 39.2	2.218
1	17 5 31.06	2.1975	27 19 52.8	4.906	1	18 53 2.67	2.2573	26 6 21.9	2.257
2	17 7 42.99	2.2002	27 24 1.3	4.077	2	18 55 18.10	2.2569	26 3 56.3	2.267
3	17 9 55.09	2.2039	27 28 2.0	3.947	3	18 57 33.50	2.2563	26 1 22.2	2.266
4	17 12 7.34	2.2054	27 31 54.9	3.817	4	18 59 48.86	2.2558	27 58 39.7	2.278
5	17 14 19.74	2.2080	27 35 40.0	3.687	5	19 2 4.19	2.2556	27 55 48.9	2.217
6	17 16 32.30	2.2106	27 39 17.3	3.556	6	19 4 19.48	2.2544	27 52 49.7	2.265
7	17 18 45.01	2.2130	27 42 46.7	3.424	7	19 6 34.72	2.2536	27 49 42.2	2.216
8	17 20 57.86	2.2153	27 46 8.1	3.291	8	19 8 49.91	2.2528	27 46 26.3	2.225
9	17 23 10.84	2.2175	27 49 21.6	3.158	9	19 11 5.06	2.2520	27 43 2.0	2.274
10	17 25 23.96	2.2198	27 52 27.1	3.026	10	19 13 20.15	2.2509	27 39 29.4	2.213
11	17 27 37.22	2.2221	27 55 24.7	2.893	11	19 15 35.17	2.2498	27 35 48.5	2.229
12	17 29 50.61	2.2242	27 58 14.3	2.759	12	19 17 50.13	2.2487	27 31 59.2	2.281
13	17 32 4.13	2.2263	28 0 55.8	2.625	13	19 20 5.02	2.2476	27 28 1.6	2.280
14	17 34 17.77	2.2283	28 3 29.3	2.491	14	19 22 19.84	2.2464	27 23 55.8	2.286
15	17 36 31.53	2.2303	28 5 54.7	2.356	15	19 24 34.59	2.2452	27 19 41.7	2.294
16	17 38 45.40	2.2329	28 8 12.0	2.221	16	19 26 49.26	2.2438	27 15 19.3	2.241
17	17 40 59.39	2.2341	28 10 21.2	2.085	17	19 29 3.84	2.2423	27 10 48.7	2.278
18	17 43 13.49	2.2358	28 12 22.2	1.949	18	19 31 18.33	2.2408	27 6 9.9	2.275
19	17 45 27.69	2.2376	28 14 15.1	1.813	19	19 33 32.73	2.2393	27 1 22.9	2.282
20	17 47 42.00	2.2393	28 15 59.8	1.677	20	19 35 47.04	2.2378	26 56 27.7	2.280
21	17 49 56.41	2.2409	28 17 36.3	1.540	21	19 38 1.26	2.2361	26 51 24.3	2.225
22	17 52 10.91	2.2424	28 19 4.6	1.403	22	19 40 15.38	2.2344	26 46 12.7	2.281
23	17 54 25.50	2.2438	S. 28 20 24.7	1.266	23	19 42 29.39	2.2327	S. 26 40 53.0	2.280
MONDAY 18.					WEDNESDAY 20.				
0	17 56 40.17	2.2459	S. 28 21 36.6	1.129	0	19 44 43.30	2.2309	S. 26 35 25.2	2.231
1	17 58 54.93	2.2466	28 22 40.2	0.991	1	19 46 57.10	2.2290	26 29 49.3	2.286
2	18 1 9.76	2.2479	28 23 35.5	0.853	2	19 49 10.78	2.2271	26 24 5.3	2.286
3	18 3 24.67	2.2491	28 24 22.5	0.714	3	19 51 24.35	2.2252	26 18 13.3	2.294
4	18 5 39.65	2.2509	28 25 1.2	0.576	4	19 53 37.80	2.2232	26 12 13.2	2.287
5	18 7 54.69	2.2519	28 25 31.6	0.437	5	19 55 51.13	2.2212	26 6 5.2	2.286
6	18 10 9.79	2.2529	28 25 53.7	0.298	6	19 58 4.34	2.2192	25 59 49.2	2.233
7	18 12 24.95	2.2531	28 26 7.4	0.159	7	20 0 17.43	2.2170	25 53 25.3	2.285
8	18 14 40.16	2.2539	28 26 12.8	- 0.021	8	20 2 30.38	2.2148	25 46 53.4	2.297
9	18 16 55.42	2.2547	28 26 9.9	+ 0.118	9	20 4 43.20	2.2126	25 40 13.6	2.278
10	18 19 10.73	2.2554	28 25 58.6	0.258	10	20 6 55.89	2.2103	25 33 26.0	2.289
11	18 21 26.07	2.2560	28 25 38.9	0.397	11	20 9 8.44	2.2080	25 26 30.5	2.289
12	18 23 41.45	2.2566	28 25 10.9	0.537	12	20 11 20.85	2.2057	25 19 27.2	2.230
13	18 25 56.86	2.2571	28 24 34.5	0.677	13	20 13 33.12	2.2033	25 12 16.1	2.280
14	18 28 12.30	2.2575	28 23 49.6	0.817	14	20 15 45.25	2.2010	25 4 57.3	2.278
15	18 30 27.76	2.2578	28 22 56.4	0.957	15	20 17 57.24	2.1986	24 57 30.8	2.286
16	18 32 43.24	2.2581	28 21 54.8	1.097	16	20 20 9.08	2.1961	24 49 56.6	2.233
17	18 34 58.73	2.2583	28 20 44.8	1.238	17	20 22 20.77	2.1936	24 42 14.8	2.281
18	18 37 14.24	2.2585	28 19 26.3	1.378	18	20 24 32.31	2.1911	24 34 25.3	2.288
19	18 39 29.75	2.2588	28 17 59.4	1.517	19	20 26 43.70	2.1886	24 26 28.2	2.284
20	18 41 45.26	2.2584	28 16 24.2	1.657	20	20 28 54.94	2.1860	24 18 23.6	2.230
21	18 44 0.76	2.2583	28 14 40.6	1.797	21	20 31 6.02	2.1834	24 10 11.5	2.284
22	18 46 16.26	2.2582	28 12 48.6	1.937	22	20 33 16.95	2.1808	24 1 51.9	2.289
23	18 48 31.75	2.2580	28 10 48.1	2.078	23	20 35 27.72	2.1789	23 53 24.9	2.233
24	18 50 47.22	2.2577	S. 28 8 39.2	2.218	24	20 37 38.33	2.1756	S. 23 44 50.4	2.286

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	^h 20 ^m 37 ^s 38.33	2.1756	S. 23° 44' 50.4"	8.636	0	^h 22 ^m 18 ^s 59.19	2.0531	S. 14° 42' 15.6"	13.655
1	20 39 48.79	2.1759	23 36 8.5	8.758	1	22 21 2.32	2.0519	14 28 33.8	13.738
2	20 41 59.08	2.1762	23 27 19.4	8.879	2	22 23 5.33	2.0493	14 14 47.0	13.891
3	20 44 9.21	2.1675	23 18 23.0	9.001	3	22 25 8.23	2.0474	14 0 55.3	13.999
4	20 46 19.18	2.1648	23 9 19.3	9.129	4	22 27 11.02	2.0456	13 46 58.8	13.981
5	20 48 28.99	2.1621	23 0 8.4	9.248	5	22 29 13.70	2.0438	13 32 57.6	14.059
6	20 50 38.63	2.1593	22 50 50.3	9.361	6	22 31 16.28	2.0429	13 18 51.7	14.137
7	20 52 48.11	2.1566	22 41 25.1	9.479	7	22 33 18.76	2.0405	13 4 41.1	14.214
8	20 54 57.42	2.1538	22 31 52.8	9.597	8	22 35 21.14	2.0389	12 50 26.0	14.289
9	20 57 6.57	2.1511	22 22 13.4	9.715	9	22 37 23.43	2.0374	12 36 6.4	14.364
10	20 59 15.55	2.1483	22 12 27.0	9.831	10	22 39 25.63	2.0359	12 21 42.3	14.438
11	21 1 24.37	2.1456	22 2 34.7	9.946	11	22 41 27.74	2.0345	12 7 13.8	14.511
12	21 3 33.02	2.1428	21 52 33.5	10.061	12	22 43 29.77	2.0331	11 52 41.0	14.589
13	21 5 41.51	2.1401	21 42 26.4	10.176	13	22 45 31.71	2.0318	11 38 4.0	14.659
14	21 7 49.83	2.1373	21 32 12.4	10.290	14	22 47 33.58	2.0305	11 23 22.8	14.729
15	21 9 57.98	2.1345	21 21 51.6	10.409	15	22 49 35.37	2.0293	11 8 37.4	14.790
16	21 12 5.97	2.1317	21 11 24.1	10.514	16	22 51 37.09	2.0281	10 53 48.0	14.857
17	21 14 13.79	2.1289	21 0 49.9	10.626	17	22 53 38.74	2.0269	10 38 54.6	14.922
18	21 16 21.44	2.1262	20 50 9.0	10.736	18	22 55 40.32	2.0258	10 23 57.3	14.987
19	21 18 28.93	2.1235	20 39 21.5	10.846	19	22 57 41.84	2.0249	10 8 56.2	15.051
20	21 20 36.26	2.1207	20 28 27.5	10.955	20	22 59 43.31	2.0240	9 53 51.2	15.114
21	21 22 43.42	2.1180	20 17 26.9	11.064	21	23 1 44.72	2.0231	9 38 42.5	15.176
22	21 24 50.42	2.1153	20 6 19.8	11.171	22	23 3 46.08	2.0223	9 23 30.1	15.236
23	21 26 57.26	2.1126	S. 19° 55' 6.4"	11.277	23	23 5 47.39	2.0215	S. 9° 8' 14.2"	15.294
FRIDAY 22.					SUNDAY 24.				
0	21 29 3.94	2.1099	S. 19° 43' 46.6"	11.389	0	23 7 48.66	2.0208	S. 8° 52' 54.8"	15.359
1	21 31 10.45	2.1073	19 32 20.5	11.497	1	23 9 49.89	2.0202	8 37 31.9	15.409
2	21 33 16.81	2.1047	19 20 48.1	11.599	2	23 11 51.08	2.0196	8 22 5.7	15.464
3	21 35 23.01	2.1020	19 9 9.5	11.695	3	23 13 52.24	2.0191	8 6 36.2	15.519
4	21 37 29.05	2.0993	18 57 24.7	11.797	4	23 15 53.38	2.0187	7 51 3.4	15.573
5	21 39 34.93	2.0967	18 45 33.8	11.899	5	23 17 54.49	2.0183	7 35 27.5	15.624
6	21 41 40.66	2.0942	18 33 36.8	12.000	6	23 19 55.58	2.0181	7 19 48.5	15.675
7	21 43 46.24	2.0917	18 21 33.8	12.100	7	23 21 56.66	2.0178	7 4 6.5	15.724
8	21 45 51.66	2.0891	18 9 24.8	12.198	8	23 23 57.72	2.0176	6 48 21.6	15.772
9	21 47 56.93	2.0866	17 57 10.0	12.296	9	23 25 58.77	2.0175	6 32 33.8	15.820
10	21 50 2.05	2.0842	17 44 49.3	12.393	10	23 27 59.82	2.0175	6 16 43.2	15.866
11	21 52 7.03	2.0817	17 32 22.8	12.490	11	23 30 0.87	2.0175	6 0 49.9	15.910
12	21 54 11.86	2.0793	17 19 50.5	12.588	12	23 32 1.92	2.0176	5 44 54.0	15.953
13	21 56 16.55	2.0770	17 7 12.5	12.680	13	23 34 2.98	2.0178	5 28 55.5	15.996
14	21 58 21.10	2.0746	16 54 28.9	12.773	14	23 36 4.06	2.0181	5 12 54.5	16.037
15	22 0 25.50	2.0723	16 41 39.8	12.865	15	23 38 5.15	2.0183	4 56 51.1	16.076
16	22 2 29.77	2.0700	16 28 45.1	12.957	16	23 40 6.26	2.0187	4 40 45.4	16.114
17	22 4 33.90	2.0677	16 15 44.9	13.047	17	23 42 7.40	2.0192	4 24 37.4	16.152
18	22 6 37.89	2.0654	16 2 39.4	13.137	18	23 44 8.57	2.0197	4 8 27.2	16.188
19	22 8 41.75	2.0633	15 49 28.5	13.226	19	23 46 9.77	2.0203	3 52 14.9	16.222
20	22 10 45.49	2.0612	15 36 12.3	13.314	20	23 48 11.01	2.0210	3 36 0.6	16.254
21	22 12 49.10	2.0592	15 22 50.8	13.402	21	23 50 12.29	2.0218	3 19 44.4	16.286
22	22 14 52.59	2.0571	15 9 24.1	13.487	22	23 52 13.62	2.0226	3 3 26.3	16.317
23	22 16 55.95	2.0550	14 55 52.4	13.571	23	23 54 15.00	2.0235	2 47 6.4	16.345
24	22 18 59.19	2.0531	S. 14° 42' 15.6"	13.655	24	23 56 16.44	2.0245	S. 2° 30' 44.9"	16.379

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	^h 23 ^m 56 ^s 16.44	2.0245	S. 2° 30' 44.9	16.372	0	^h 1 ^m 36 ^s 3.01	2.1631	N. 10° 39' 8.8	15.936
1	23 58 17.94	2.0255	2 14 21.8	16.398	1	1 38 12.94	2.1678	10 55 3.5	15.887
2	0 0 19.50	2.0266	1 57 57.1	16.424	2	1 40 23.15	2.1726	11 10 55.2	15.836
3	0 2 21.13	2.0278	1 41 30.9	16.448	3	1 42 33.65	2.1775	11 26 43.8	15.783
4	0 4 22.84	2.0291	1 25 3.3	16.470	4	1 44 44.45	2.1826	11 42 29.2	15.728
5	0 6 24.63	2.0305	1 8 34.5	16.490	5	1 46 55.56	2.1877	11 58 11.2	15.672
6	0 8 26.50	2.0319	0 52 4.5	16.509	6	1 49 6.97	2.1927	12 13 49.8	15.613
7	0 10 28.46	2.0334	0 35 33.4	16.527	7	1 51 18.69	2.1979	12 29 24.8	15.553
8	0 12 30.51	2.0350	0 19 1.2	16.544	8	1 53 30.72	2.2032	12 44 56.2	15.492
9	0 14 32.66	2.0367	S. 0 2 28.1	16.559	9	1 55 43.07	2.2085	13 0 23.9	15.429
10	0 16 34.91	2.0384	N. 0 14 5.9	16.573	10	1 57 55.74	2.2139	13 15 47.7	15.363
11	0 18 37.27	2.0402	0 30 40.7	16.586	11	2 0 8.74	2.2193	13 31 7.5	15.296
12	0 20 39.74	2.0421	0 47 16.1	16.598	12	2 2 22.06	2.2248	13 46 23.2	15.227
13	0 22 42.32	2.0441	1 3 52.1	16.608	13	2 4 35.72	2.2304	14 1 34.7	15.156
14	0 24 45.03	2.0462	1 20 28.7	16.613	14	2 6 49.71	2.2360	14 16 41.9	15.083
15	0 26 47.86	2.0483	1 37 5.7	16.619	15	2 9 4.04	2.2417	14 31 44.7	15.008
16	0 28 50.82	2.0505	1 53 43.0	16.623	16	2 11 18.71	2.2474	14 46 42.9	14.932
17	0 30 53.92	2.0528	2 10 20.5	16.626	17	2 13 33.73	2.2532	15 1 36.5	14.854
18	0 32 57.16	2.0552	2 26 58.1	16.627	18	2 15 49.10	2.2591	15 16 25.4	14.774
19	0 35 0.54	2.0576	2 43 35.8	16.628	19	2 18 4.82	2.2650	15 31 9.4	14.689
20	0 37 4.07	2.0602	3 0 13.5	16.627	20	2 20 20.90	2.2710	15 45 48.4	14.600
21	0 39 7.76	2.0628	3 16 51.1	16.625	21	2 22 37.34	2.2770	16 0 22.4	14.503
22	0 41 11.61	2.0655	3 33 28.5	16.621	22	2 24 54.14	2.2830	16 14 51.2	14.405
23	0 43 15.62	2.0683	N. 3 50 5.6	16.614	23	2 27 11.30	2.2891	N. 16 29 14.6	14.305
TUESDAY 26.					THURSDAY 28.				
0	0 45 19.80	2.0711	N. 4 6 42.2	16.606	0	2 29 28.83	2.2953	N. 16 43 32.6	14.204
1	0 47 24.15	2.0740	4 23 18.3	16.597	1	2 31 46.73	2.3014	16 57 45.1	14.161
2	0 49 28.68	2.0771	4 39 53.9	16.587	2	2 34 5.00	2.3077	17 11 51.9	14.086
3	0 51 33.40	2.0802	4 56 28.8	16.575	3	2 36 23.65	2.3139	17 25 53.0	13.989
4	0 53 38.30	2.0833	5 13 2.9	16.561	4	2 38 42.67	2.3202	17 39 48.2	13.878
5	0 55 43.39	2.0865	5 29 36.1	16.545	5	2 41 2.07	2.3265	17 53 37.4	13.770
6	0 57 48.68	2.0899	5 46 8.3	16.527	6	2 43 21.85	2.3328	18 7 20.6	13.666
7	0 59 54.18	2.0933	6 2 39.4	16.509	7	2 45 42.01	2.3392	18 20 57.5	13.563
8	1 1 59.88	2.0967	6 19 9.4	16.489	8	2 48 2.56	2.3457	18 34 28.1	13.457
9	1 4 5.79	2.1002	6 35 38.2	16.468	9	2 50 23.49	2.3521	18 47 52.3	13.349
10	1 6 11.91	2.1039	6 52 5.6	16.444	10	2 52 44.81	2.3586	19 1 10.0	13.239
11	1 8 18.26	2.1077	7 8 31.5	16.418	11	2 55 6.52	2.3651	19 14 21.0	13.127
12	1 10 24.84	2.1116	7 24 55.8	16.392	12	2 57 28.62	2.3716	19 27 25.2	13.013
13	1 12 31.65	2.1154	7 41 18.5	16.363	13	2 59 51.11	2.3781	19 40 22.5	12.898
14	1 14 38.69	2.1193	7 57 39.4	16.332	14	3 2 13.99	2.3846	19 53 12.9	12.781
15	1 16 45.97	2.1234	8 13 58.4	16.301	15	3 4 37.26	2.3912	20 5 56.2	12.662
16	1 18 53.50	2.1275	8 30 15.5	16.268	16	3 7 0.93	2.3977	20 18 32.3	12.541
17	1 21 1.27	2.1316	8 46 30.5	16.232	17	3 9 24.99	2.4043	20 31 1.1	12.418
18	1 23 9.29	2.1358	9 2 43.3	16.194	18	3 11 49.44	2.4108	20 43 22.4	12.293
19	1 25 17.57	2.1402	9 18 53.8	16.156	19	3 14 14.29	2.4174	20 55 36.2	12.168
20	1 27 26.12	2.1446	9 35 2.0	16.116	20	3 16 39.53	2.4239	21 7 42.3	12.037
21	1 29 34.93	2.1491	9 51 7.7	16.073	21	3 19 5.16	2.4304	21 19 40.7	11.907
22	1 31 44.01	2.1537	10 7 10.8	16.029	22	3 21 31.18	2.4370	21 31 31.2	11.775
23	1 33 53.37	2.1583	10 23 11.2	15.983	23	3 23 57.60	2.4436	21 43 13.7	11.642
24	1 36 3.01	2.1631	N. 10 39 8.8	15.936	24	3 26 24.41	2.4501	N. 21 54 48.2	11.507

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 29.					SUNDAY, OCTOBER 1.				
0	^h 3 ^m 26 ^s 24.41	2.4501	N. 21° 54' 48.2"	11.507	0	^h 5 ^m 30 ^s 24.88	2.6787	N. 28° 1' 17.0"	3.378
1	3 28 51.61	2.4566	22 6 14.5	11.369					
2	3 31 19.20	2.4630	22 17 32.5	11.230					
3	3 33 47.17	2.4694	22 28 42.1	11.089					
4	3 36 15.53	2.4759	22 39 43.2	10.947					
5	3 38 44.28	2.4823	22 50 35.7	10.803					
6	3 41 13.41	2.4888	23 1 19.5	10.657					
7	3 43 42.92	2.4949	23 11 54.5	10.509					
8	3 46 12.80	2.5012	23 22 20.6	10.359					
9	3 48 43.06	2.5074	23 32 37.6	10.208					
10	3 51 13.69	2.5136	23 42 45.5	10.056					
11	3 53 44.69	2.5197	23 52 44.3	9.902					
12	3 56 16.06	2.5258	24 2 33.8	9.747					
13	3 58 47.79	2.5318	24 12 13.9	9.589					
14	4 1 19.88	2.5378	24 21 44.5	9.430					
15	4 3 52.32	2.5437	24 31 5.5	9.269					
16	4 6 25.12	2.5495	24 40 16.8	9.107					
17	4 8 58.26	2.5553	24 49 18.3	8.943					
18	4 11 31.75	2.5610	24 58 9.9	8.778					
19	4 14 5.58	2.5666	25 6 51.6	8.612					
20	4 16 39.74	2.5720	25 15 23.3	8.444					
21	4 19 14.22	2.5774	25 23 44.9	8.274					
22	4 21 49.02	2.5828	25 31 56.2	8.103					
23	4 24 24.15	2.5881	N. 25 39 57.3	7.932					
SATURDAY 30.					PHASES OF THE MOON.				
0	4 26 59.59	2.5939	N. 25 47 48.0	7.758	☾ Last Quarter . . . Sept.	d 2	h 21	m 41.5	
1	4 29 35.33	2.5999	25 55 28.3	7.584	● New Moon	9	19	4.7	
2	4 32 11.37	2.6032	26 2 58.1	7.408	☾ First Quarter	17	16	18.8	
3	4 34 47.71	2.6080	26 10 17.2	7.230	○ Full Moon	25	8	23.2	
4	4 37 24.33	2.6127	26 17 25.7	7.052					
5	4 40 1.23	2.6179	26 24 23.4	6.872					
6	4 42 38.39	2.6216	26 31 10.3	6.691					
7	4 45 15.82	2.6260	26 37 46.3	6.509					
8	4 47 53.51	2.6309	26 44 11.4	6.326					
9	4 50 31.45	2.6343	26 50 25.4	6.142					
10	4 53 9.63	2.6383	26 56 28.4	5.957					
11	4 55 48.05	2.6422	27 2 20.3	5.771					
12	4 58 26.69	2.6458	27 8 0.9	5.584					
13	5 1 5.55	2.6494	27 13 30.3	5.396					
14	5 3 44.62	2.6528	27 18 48.4	5.207					
15	5 6 23.89	2.6561	27 23 55.1	5.017					
16	5 9 3.35	2.6599	27 28 50.4	4.826					
17	5 11 43.00	2.6629	27 33 34.2	4.635					
18	5 14 22.82	2.6651	27 38 6.6	4.444					
19	5 17 2.81	2.6677	27 42 27.5	4.251					
20	5 19 42.95	2.6702	27 46 36.7	4.057					
21	5 22 23.24	2.6726	27 50 34.3	3.863					
22	5 25 3.66	2.6748	27 54 20.2	3.668					
23	5 27 44.21	2.6768	27 57 54.4	3.473					
24	5 30 24.88	2.6787	N. 28 1 17.0	3.278					

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Fomalhaut W. 73° 55' 23" 9541	73° 55' 23" 9541		75° 35' 39" 9534	75° 35' 39" 9534	77° 16' 5" 9528	77° 16' 5" 9528	78° 56' 39" 9522	78° 56' 39" 9522
	α Pegasi W. 53° 52' 21" 9530	53° 52' 21" 9530		55° 26' 10" 9505	55° 26' 10" 9505	57° 0' 31" 9784	57° 0' 31" 9784	58° 35' 20" 9763	58° 35' 20" 9763
	Pollux E. 67° 25' 24" 9397	67° 25' 24" 9397		65° 40' 4" 9394	65° 40' 4" 9394	63° 54' 40" 9391	63° 54' 40" 9391	62° 9' 11" 9318	62° 9' 11" 9318
	SUN E. 114° 58' 39" 9646	114° 58' 39" 9646		113° 20' 46" 9641	113° 20' 46" 9641	111° 42' 47" 9638	111° 42' 47" 9638	110° 4' 44" 9635	110° 4' 44" 9635
2	Fomalhaut W. 87° 21' 11" 9509	87° 21' 11" 9509		89° 2' 21" 9500	89° 2' 21" 9500	90° 43' 34" 9498	90° 43' 34" 9498	92° 24' 50" 9496	92° 24' 50" 9496
	α Pegasi W. 66° 35' 23" 9686	66° 35' 23" 9686		68° 12' 22" 9675	68° 12' 22" 9675	69° 49' 36" 9664	69° 49' 36" 9664	71° 27' 4" 9654	71° 27' 4" 9654
	α Arietis W. 22° 58' 17" 9616	22° 58' 17" 9616		24° 36' 50" 9675	24° 36' 50" 9675	26° 16' 19" 9641	26° 16' 19" 9641	27° 56' 35" 9519	27° 56' 35" 9519
	Pollux E. 53° 20' 45" 9305	53° 20' 45" 9305		51° 34' 53" 9309	51° 34' 53" 9309	49° 48' 57" 9301	49° 48' 57" 9301	48° 2' 59" 9299	48° 2' 59" 9299
	SUN E. 101° 53' 19" 9619	101° 53' 19" 9619		100° 14' 50" 9616	100° 14' 50" 9616	98° 36' 17" 9614	98° 36' 17" 9614	96° 57' 41" 9612	96° 57' 41" 9612
3	α Pegasi W. 79° 37' 16" 9690	79° 37' 16" 9690		81° 15' 44" 9615	81° 15' 44" 9615	82° 54' 18" 9619	82° 54' 18" 9619	84° 32' 57" 9609	84° 32' 57" 9609
	α Arietis W. 36° 26' 11" 9499	36° 26' 11" 9499		38° 9' 15" 9410	38° 9' 15" 9410	39° 52' 35" 9400	39° 52' 35" 9400	41° 36' 10" 9391	41° 36' 10" 9391
	Pollux E. 39° 12' 30" 9391	39° 12' 30" 9391		37° 26' 18" 9391	37° 26' 18" 9391	35° 40' 5" 9390	35° 40' 5" 9390	33° 53' 51" 9389	33° 53' 51" 9389
	SUN E. 88° 43' 58" 9609	88° 43' 58" 9609		87° 5' 6" 9601	87° 5' 6" 9601	85° 26' 12" 9599	85° 26' 12" 9599	83° 47' 16" 9599	83° 47' 16" 9599
4	α Pegasi W. 92° 46' 53" 9604	92° 46' 53" 9604		94° 25' 42" 9607	94° 25' 42" 9607	96° 4' 28" 9609	96° 4' 28" 9609	97° 43' 11" 9611	97° 43' 11" 9611
	α Arietis W. 50° 16' 44" 9361	50° 16' 44" 9361		52° 1' 15" 9357	52° 1' 15" 9357	53° 45' 51" 9354	53° 45' 51" 9354	55° 30' 32" 9351	55° 30' 32" 9351
	JUPITER W. 26° 12' 25" 9359	26° 12' 25" 9359		27° 56' 58" 9353	27° 56' 58" 9353	29° 41' 41" 9347	29° 41' 41" 9347	31° 26' 32" 9342	31° 26' 32" 9342
	SUN E. 75° 32' 20" 9596	75° 32' 20" 9596		73° 53' 19" 9595	73° 53' 19" 9595	72° 14' 17" 9595	72° 14' 17" 9595	70° 35' 15" 9596	70° 35' 15" 9596
5	α Arietis W. 64° 14' 46" 9344	64° 14' 46" 9344		65° 59' 42" 9343	65° 59' 42" 9343	67° 44' 39" 9343	67° 44' 39" 9343	69° 29' 36" 9344	69° 29' 36" 9344
	JUPITER W. 40° 12' 8" 9330	40° 12' 8" 9330		41° 57' 24" 9398	41° 57' 24" 9398	43° 42' 42" 9398	43° 42' 42" 9398	45° 28' 0" 9398	45° 28' 0" 9398
	Aldebaran W. 34° 12' 57" 9465	34° 12' 57" 9465		35° 55' 0" 9451	35° 55' 0" 9451	37° 37' 22" 9440	37° 37' 22" 9440	39° 20' 0" 9439	39° 20' 0" 9439
	SUN E. 62° 20' 20" 9600	62° 20' 20" 9600		60° 41' 25" 9608	60° 41' 25" 9608	59° 2' 33" 9604	59° 2' 33" 9604	57° 23' 43" 9605	57° 23' 43" 9605
6	α Arietis W. 78° 13' 58" 9351	78° 13' 58" 9351		79° 58' 43" 9354	79° 58' 43" 9354	81° 43' 24" 9357	81° 43' 24" 9357	83° 28' 0" 9360	83° 28' 0" 9360
	JUPITER W. 54° 14' 18" 9335	54° 14' 18" 9335		55° 59' 27" 9337	55° 59' 27" 9337	57° 44' 33" 9339	57° 44' 33" 9339	59° 29' 35" 9349	59° 29' 35" 9349
	Aldebaran W. 47° 55' 48" 9405	47° 55' 48" 9405		49° 39' 16" 9403	49° 39' 16" 9403	51° 22' 47" 9401	51° 22' 47" 9401	53° 6' 20" 9401	53° 6' 20" 9401
	SUN E. 49° 10' 23" 9691	49° 10' 23" 9691		47° 31' 55" 9694	47° 31' 55" 9694	45° 53' 33" 9689	45° 53' 33" 9689	44° 15' 17" 9683	44° 15' 17" 9683
7	α Arietis W. 92° 9' 41" 9389	92° 9' 41" 9389		93° 53' 41" 9388	93° 53' 41" 9388	95° 37' 33" 9394	95° 37' 33" 9394	97° 21' 16" 9400	97° 21' 16" 9400
	JUPITER W. 68° 13' 32" 9369	68° 13' 32" 9369		69° 58' 2" 9367	69° 58' 2" 9367	71° 42' 24" 9379	71° 42' 24" 9379	73° 26' 39" 9378	73° 26' 39" 9378
	Aldebaran W. 61° 43' 57" 9408	61° 43' 57" 9408		63° 27' 20" 9411	63° 27' 20" 9411	65° 10' 39" 9415	65° 10' 39" 9415	66° 53' 53" 9419	66° 53' 53" 9419
	SUN E. 36° 5' 38" 9669	36° 5' 38" 9669		34° 28' 7" 9669	34° 28' 7" 9669	32° 50' 45" 9677	32° 50' 45" 9677	31° 13' 34" 9684	31° 13' 34" 9684
8	JUPITER W. 82° 5' 42" 9411	82° 5' 42" 9411		83° 49' 1" 9418	83° 49' 1" 9418	85° 32' 10" 9496	85° 32' 10" 9496	87° 15' 8" 9494	87° 15' 8" 9494
	Aldebaran W. 75° 28' 19" 9447	75° 28' 19" 9447		77° 10' 47" 9453	77° 10' 47" 9453	78° 53' 6" 9461	78° 53' 6" 9461	80° 35' 14" 9469	80° 35' 14" 9469
	Pollux W. 31° 25' 26" 9391	31° 25' 26" 9391		33° 9' 14" 9398	33° 9' 14" 9398	34° 52' 51" 9405	34° 52' 51" 9405	36° 36' 18" 9413	36° 36' 18" 9413
	SUN E. 23° 10' 36" 9736	23° 10' 36" 9736		21° 34' 44" 9750	21° 34' 44" 9750	19° 59' 11" 9766	19° 59' 11" 9766	18° 23' 58" 9783	18° 23' 58" 9783
11	SUN W. 14° 50' 21" 3038	14° 50' 21" 3038		16° 19' 47" 3043	16° 19' 47" 3043	17° 49' 6" 3051	17° 49' 6" 3051	19° 18' 16" 3060	19° 18' 16" 3060
	Antares E. 64° 46' 59" 9640	64° 46' 59" 9640		63° 8' 58" 9652	63° 8' 58" 9652	61° 31' 14" 9665	61° 31' 14" 9665	59° 53' 47" 9678	59° 53' 47" 9678
	α Aquilæ E. 112° 10' 29" 3640	112° 10' 29" 3640		110° 52' 38" 3639	110° 52' 38" 3639	109° 34' 38" 3694	109° 34' 38" 3694	108° 16' 30" 3699	108° 16' 30" 3699
12	SUN W. 26° 41' 15" 3110	26° 41' 15" 3110		28° 9' 12" 3122	28° 9' 12" 3122	29° 36' 55" 3134	29° 36' 55" 3134	31° 4' 23" 3147	31° 4' 23" 3147
	Antares E. 51° 50' 54" 9743	51° 50' 54" 9743		50° 15' 11" 9756	50° 15' 11" 9756	48° 39' 46" 9769	48° 39' 46" 9769	47° 4' 37" 9789	47° 4' 37" 9789
	α Aquilæ E. 101° 45' 7" 3619	101° 45' 7" 3619		100° 26' 53" 3623	100° 26' 53" 3623	99° 8' 43" 3636	99° 8' 43" 3636	97° 50' 39" 3635	97° 50' 39" 3635
13	SUN W. 38° 18' 1" 3909	38° 18' 1" 3909		39° 44' 0" 3920	39° 44' 0" 3920	41° 9' 45" 3939	41° 9' 45" 3939	42° 35' 16" 3945	42° 35' 16" 3945
	Antares E. 39° 13' 2" 9844	39° 13' 2" 9844		37° 39' 31" 9856	37° 39' 31" 9856	36° 6' 16" 9869	36° 6' 16" 9869	34° 33' 16" 9889	34° 33' 16" 9889
	α Aquilæ E. 91° 22' 23" 3681	91° 22' 23" 3681		90° 5' 16" 3683	90° 5' 16" 3683	88° 48' 21" 3706	88° 48' 21" 3706	87° 31' 40" 3719	87° 31' 40" 3719

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	Fomalhaut W.	80° 37' 21"	2517	82° 18' 10"	2513	83° 59' 5"	2509	85° 40' 6"	2506
	α Pegasi W.	60 10 36	2745	61 46 16	2728	63 22 19	2713	64 58 42	2699
	Pollux E.	60 23 38	2315	58 38 0	2313	56 52 19	2310	55 6 34	2307
	Sun E.	108 26 36	2631	106 48 23	2627	105 10 6	2624	103 31 44	2622
2	Fomalhaut W.	94 6 9	2425	95 47 29	2425	97 28 49	2424	99 10 10	2425
	α Pegasi W.	73 4 46	2646	74 42 39	2638	76 20 42	2631	77 58 55	2625
	α Arietis W.	29 37 32	2487	31 19 3	2467	33 1 2	2450	34 43 26	2435
	Pollux E.	46 16 58	2227	44 30 54	2226	42 44 48	2224	40 58 40	2223
	Sun E.	95 19 2	2610	93 40 20	2607	92 1 35	2606	90 22 48	2604
3	α Pegasi W.	86 11 40	2607	87 50 26	2605	89 29 14	2604	91 8 3	2604
	α Arietis W.	43 19 57	2384	45 3 55	2377	46 48 3	2371	48 32 20	2366
	Pollux E.	32 7 36	2229	30 21 20	2229	28 35 4	2229	26 48 48	2228
	Sun E.	82 8 19	2597	80 29 20	2597	78 50 21	2596	77 11 21	2596
4	α Pegasi W.	99 21 51	2615	101 0 26	2620	102 38 54	2625	104 17 15	2629
	α Arietis W.	57 15 17	2348	59 0 6	2347	60 44 57	2345	62 29 51	2344
	JUPITER W.	33 11 30	2338	34 56 34	2335	36 41 42	2333	38 26 54	2331
	Sun E.	68 56 14	2596	67 17 13	2597	65 38 14	2598	63 59 16	2599
5	α Arietis W.	71 14 32	2344	72 59 27	2346	74 44 20	2348	76 29 10	2349
	JUPITER W.	47 13 18	2328	48 58 36	2330	50 43 52	2331	52 29 6	2333
	Aldebaran W.	41 2 52	2422	42 45 55	2417	44 29 6	2412	46 12 24	2406
	Sun E.	55 44 55	2608	54 6 11	2610	52 27 30	2614	50 48 54	2617
6	α Arietis W.	85 12 32	2364	86 56 58	2368	88 41 19	2373	90 25 33	2377
	JUPITER W.	61 14 33	2346	62 59 26	2349	64 44 14	2353	66 28 56	2357
	Aldebaran W.	54 49 54	2401	56 33 28	2402	58 17 0	2403	60 0 30	2405
	Sun E.	42 37 7	2638	40 59 4	2643	39 21 7	2649	37 43 18	2655
7	α Arietis W.	99 4 51	2407	100 48 16	2414	102 31 31	2422	104 14 35	2429
	JUPITER W.	75 10 45	2384	76 54 43	2390	78 38 32	2396	80 22 12	2403
	Aldebaran W.	68 37 1	2424	70 20 2	2429	72 2 56	2434	73 45 42	2441
	Sun E.	29 36 33	2623	27 59 44	2702	26 23 7	2713	24 46 44	2724
8	JUPITER W.	88 57 54	2443	90 40 28	2451	92 22 50	2460	94 4 59	2470
	Aldebaran W.	82 17 11	2477	83 58 57	2485	85 40 31	2494	87 21 53	2504
	Pollux W.	38 19 34	2422	40 2 38	2430	41 45 30	2439	43 28 9	2448
	Sun E.	16 49 8	2804	15 14 45	2822	13 40 55	2860	12 7 45	2898
11	Sun W.	20 47 15	3069	22 16 3	3078	23 44 40	3088	25 13 4	3099
	Antares E.	58 16 38	2691	56 39 46	2704	55 3 11	2717	53 26 54	2730
	α Aquilæ E.	106 58 17	2616	105 40 0	2615	104 21 42	2615	103 3 24	2616
12	Sun W.	32 31 36	3159	33 58 34	3171	35 25 18	3183	36 51 47	3196
	Antares E.	45 29 45	2725	43 55 10	2807	42 20 51	2820	40 46 49	2831
	α Aquilæ E.	96 32 42	2642	95 14 53	2650	93 57 13	2660	92 39 43	2669
13	Sun W.	44 0 32	3257	45 25 34	3268	46 50 23	3280	48 14 58	3291
	Antares E.	33 0 31	2891	31 28 1	2903	29 55 45	2913	28 23 43	2924
	α Aquilæ E.	86 15 13	2734	84 59 2	2748	83 43 6	2765	82 27 27	2781

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
14	SUN	W.	49° 39' 20"	3303	51° 3' 29"	3313	52° 27' 26"	3323	53° 51' 11"	3333
	Spica	W.	19 7 45	3261	20 38 59	3260	22 10 2	3269	23 40 54	3276
	α Aquilæ	E.	81 12 5	3799	79 57 2	3818	78 42 18	3837	77 27 54	3856
15	SUN	W.	60 47 12	3378	62 9 54	3386	63 32 27	3393	64 54 51	3400
	Spica	W.	31 12 55	3013	32 42 52	3090	34 12 40	3096	35 42 20	3032
	VENUS	W.	25 27 37	3469	26 48 44	3471	28 9 41	3478	29 30 30	3486
	α Aquilæ	E.	71 21 19	3971	70 9 11	3998	68 57 29	4025	67 46 14	4053
	Fomalhaut	E.	97 7 8	3907	95 41 7	3913	94 15 13	3920	92 49 27	3927
16	SUN	W.	71 45 5	3498	73 6 50	3439	74 28 30	3436	75 50 6	3439
	Spica	W.	43 8 58	3057	44 38 0	3060	46 6 58	3065	47 35 51	3067
	VENUS	W.	36 12 43	3515	37 32 51	3518	38 52 55	3523	40 12 54	3525
	α Aquilæ	E.	61 57 21	4218	60 49 12	4258	59 41 40	4296	58 34 46	4341
	Fomalhaut	E.	85 42 20	3953	84 17 14	3959	82 52 14	3963	81 27 19	3968
	α Pegasi	E.	106 47 1	3404	105 24 49	3409	104 2 35	3401	102 40 20	3400
17	SUN	W.	82 37 22	3447	83 58 45	3447	85 20 8	3447	86 41 31	3446
	Spica	W.	54 59 38	3074	56 28 19	3074	57 57 0	3073	59 25 42	3073
	VENUS	W.	46 52 8	3535	48 11 54	3535	49 31 40	3535	50 51 26	3533
	α Aquilæ	E.	53 10 55	4204	52 8 34	4270	51 7 9	4739	50 6 42	4812
	Fomalhaut	E.	74 24 2	3986	72 59 36	3999	71 35 15	3995	70 10 58	3996
	α Pegasi	E.	95 48 51	3396	94 26 30	3394	93 4 7	3393	91 41 43	3392
18	SUN	W.	93 28 55	3433	94 50 34	3430	96 12 17	3434	97 34 6	3439
	Spica	W.	66 49 40	3061	68 18 37	3057	69 47 39	3052	71 16 47	3046
	VENUS	W.	57 30 47	3590	58 50 49	3516	60 10 55	3511	61 31 7	3506
	Antares	W.	20 55 12	3060	22 24 11	3066	23 53 14	3052	25 22 23	3047
	Fomalhaut	E.	63 10 28	3315	61 46 34	3319	60 22 44	3329	58 58 58	3325
	α Pegasi	E.	84 49 18	3386	83 26 44	3389	82 4 7	3380	80 41 28	3379
19	SUN	W.	104 24 48	3386	105 47 21	3378	107 10 3	3369	108 32 55	3360
	Spica	W.	78 44 4	3017	80 13 56	3009	81 43 57	3001	83 14 8	2993
	VENUS	W.	68 13 47	3471	69 34 43	3463	70 55 48	3454	72 17 3	3445
	Antares	W.	32 49 47	3016	34 19 40	3008	35 49 43	3000	37 19 56	2999
	Fomalhaut	E.	52 1 23	3351	50 38 11	3359	49 15 8	3367	47 52 14	3377
	α Pegasi	E.	73 47 41	3369	72 24 49	3368	71 1 56	3366	69 39 1	3365
20	SUN	W.	115 30 0	3306	116 54 2	3297	118 18 17	3284	119 42 47	3272
	Spica	W.	90 47 49	2946	92 19 10	2935	93 50 45	2924	95 22 34	2912
	VENUS	W.	79 6 7	3399	80 28 33	3390	81 51 12	3387	83 14 6	3355
	Antares	W.	44 53 47	2944	46 25 10	2933	47 56 47	2922	49 28 38	2910
	Fomalhaut	E.	41 1 7	3454	39 39 51	3476	38 19 0	3503	36 58 39	3535
	α Pegasi	E.	62 44 13	3365	61 21 17	3367	59 58 23	3370	58 35 32	3372
	α Arietis	E.	103 31 1	2993	102 0 40	2981	100 30 4	2970	98 59 14	2958
21	SUN	W.	126 49 1	3205	128 15 4	3192	129 41 23	3177	131 8 0	3163
	VENUS	W.	90 12 20	3287	91 36 47	3279	93 1 31	3267	94 26 33	3248
	Antares	W.	57 11 41	2948	58 45 6	2935	60 18 48	2922	61 52 47	2908
	α Pegasi	E.	51 42 41	3410	50 20 36	3423	48 58 45	3438	47 37 12	3456
	α Arietis	E.	91 21 14	2996	89 48 50	2983	88 16 9	2969	86 43 11	2955
	JUPITER	E.	115 32 53	2963	113 59 47	2949	112 26 23	2935	110 52 41	2921

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	SUN	W.	55° 14' 45"	3343	56° 38' 7"	3351	58° 1' 19"	3361	59° 24' 20"	3368
	Spica	W.	25 11 37	2994	26 42 10	2999	28 12 35	2998	29 42 50	3000
	α Aquilæ	E.	76 13 50	3878	75 0 8	3900	73 46 48	3922	72 33 51	394
15	SUN	W.	66 17 8	3407	67 39 17	3413	69 1 19	3418	70 23 15	342
	Spica	W.	37 11 53	3038	38 41 19	3043	40 10 38	3048	41 39 51	305
	VENUS	W.	30 51 10	3492	32 11 43	3498	33 32 9	3504	34 52 29	350
	α Aquilæ	E.	66 35 27	4083	65 25 9	4114	64 15 21	4146	63 6 4	418
	Fomalhaut	E.	91 23 48	3831	89 58 16	3837	88 32 51	3949	87 7 32	394
16	SUN	W.	77 11 38	3442	78 33 7	3444	79 54 34	3446	81 15 59	344
	Spica	W.	49 4 41	3069	50 33 28	3071	52 2 13	3073	53 30 56	307
	VENUS	W.	41 32 50	3528	42 52 43	3531	44 12 33	3533	45 32 21	353
	α Aquilæ	E.	57 28 31	4387	56 22 58	4437	55 18 10	4469	54 14 8	454
	Fomalhaut	E.	80 2 30	3972	78 37 46	3976	77 13 7	3980	75 48 32	398
	α Pegasi	E.	101 18 4	3400	99 55 48	3399	98 33 30	3398	97 11 11	339
17	SUN	W.	88 2 55	3445	89 24 21	3443	90 45 49	3440	92 7 20	343
	Spica	W.	60 54 25	3071	62 23 10	3069	63 51 57	3067	65 20 47	306
	VENUS	W.	52 11 14	3532	53 31 3	3529	54 50 55	3527	56 10 49	352
	α Aquilæ	E.	49 7 16	4394	48 8 56	4381	47 11 46	4376	46 15 50	437
	Fomalhaut	E.	68 46 44	3301	67 22 34	3305	65 58 28	3308	64 34 26	331
	α Pegasi	E.	90 19 18	3391	88 56 51	3389	87 34 22	3387	86 11 51	338
18	SUN	W.	98 56 0	3414	100 18 1	3408	101 40 9	3401	103 2 24	338
	Spica	W.	72 46 0	3043	74 15 20	3037	75 44 47	3031	77 14 21	309
	VENUS	W.	62 51 25	3500	64 11 49	3493	65 32 21	3487	66 53 0	348
	Antares	W.	26 51 37	3042	28 20 58	3035	29 50 27	3030	31 20 3	302
	Fomalhaut	E.	57 35 16	3330	56 11 39	3335	54 48 8	3339	53 24 42	334
	α Pegasi	E.	79 18 47	3377	77 56 4	3374	76 33 18	3373	75 10 31	337
19	SUN	W.	109 55 57	3351	111 19 10	3340	112 42 35	3331	114 6 11	331
	Spica	W.	84 44 29	2985	86 15 1	2975	87 45 45	2965	89 16 41	296
	VENUS	W.	73 38 29	3435	75 0 6	3425	76 21 54	3415	77 43 54	340
	Antares	W.	38 50 19	2983	40 20 53	2973	41 51 39	2964	43 22 37	295
	Fomalhaut	E.	46 29 31	3388	45 7 1	3400	43 44 45	3415	42 22 46	343
	α Pegasi	E.	68 16 4	3364	66 53 6	3364	65 30 8	3364	64 7 10	336
20	SUN	W.	121 7 31	3259	122 32 30	3246	123 57 45	3233	125 23 15	322
	Spica	W.	96 54 37	2991	98 26 55	2988	99 59 29	2976	101 32 18	296
	VENUS	W.	84 37 14	3342	86 0 37	3329	87 24 15	3315	88 48 9	330
	Antares	W.	51 0 44	2986	52 33 5	2987	54 5 41	2974	55 38 33	298
	Fomalhaut	E.	35 38 53	3571	34 19 47	3515	33 1 29	3566	31 44 6	379
	α Pegasi	E.	57 12 44	3378	55 50 2	3383	54 27 26	3390	53 4 58	340
	α Arietis	E.	97 28 9	2946	95 56 49	2934	94 25 13	2922	92 53 22	290
21	SUN	W.	132 34 54	3148	134 2 6	3133	135 29 36	3117	136 57 25	310
	VENUS	W.	95 51 52	2927	97 17 29	2911	98 43 25	2895	100 9 40	288
	Antares	W.	63 27 4	2795	65 1 39	2781	66 36 32	2769	68 11 44	275
	α Pegasi	E.	46 15 59	3478	44 55 10	3503	43 34 49	3536	42 15 0	350
	α Arietis	E.	85 9 55	2942	83 36 22	2928	82 2 31	2915	80 28 22	290
	JUPITER	E.	109 18 41	2907	107 44 22	2793	106 9 45	2779	104 34 49	276

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
22	VENUS W.	101° 36' 13"	3164	103° 3' 5"	3148	104° 30' 17"	3132	105° 57' 48"	3116
	Antares W.	69 47 14	2738	71 23 3	2723	72 59 12	2708	74 35 41	2694
	α Arietis E.	78 53 55	2787	77 19 10	2773	75 44 7	2760	74 8 46	2745
	JUPITER E.	102 59 34	2749	101 23 59	2735	99 48 5	2719	98 11 50	2704
	Aldebaran E.	109 21 25	2803	107 47 1	2787	106 12 16	2772	104 37 11	2756
23	Antares W.	82 43 1	2820	84 21 29	2805	86 0 17	2590	87 39 26	2576
	α Aquilæ W.	44 35 15	4831	45 34 26	4820	46 35 34	4800	47 38 33	4443
	α Arietis E.	66 7 24	2677	64 30 13	2664	62 52 45	2651	61 14 59	2638
	JUPITER E.	90 5 38	2629	88 27 23	2614	86 48 47	2600	85 9 52	2588
	Aldebaran E.	96 36 37	2679	94 59 29	2663	93 22 0	2649	91 44 11	2635
24	Antares W.	96 0 6	2604	97 41 13	2490	99 22 40	2477	101 4 26	2464
	α Aquilæ W.	53 17 52	3869	54 30 2	3894	55 43 28	3884	56 58 5	3759
	α Arietis E.	53 2 0	2580	51 22 38	2570	49 43 2	2561	48 3 13	2552
	JUPITER E.	76 50 16	2514	75 9 22	2500	73 28 9	2487	71 46 37	2474
	Aldebaran E.	83 30 14	2564	81 50 29	2551	80 10 26	2538	78 30 5	2525
25	α Aquilæ W.	63 26 53	3495	64 47 23	3453	66 8 40	3413	67 30 42	3375
	α Arietis E.	39 41 32	2522	38 0 50	2520	36 20 5	2521	34 39 21	2523
	JUPITER E.	63 14 29	2412	61 31 12	2401	59 47 39	2390	58 3 50	2380
	Aldebaran E.	70 4 9	2468	68 22 11	2458	66 39 59	2448	64 57 33	2440
	Pollux E.	113 39 43	2402	111 56 11	2391	110 12 23	2379	108 28 18	2368
26	α Aquilæ W.	74 30 32	3229	75 56 7	3205	77 22 10	3184	78 48 38	3167
	Fomalhaut W.	43 44 24	2743	45 20 7	2709	46 56 35	2678	48 33 44	2656
	JUPITER E.	49 21 17	2335	47 36 9	2328	45 50 50	2321	44 5 21	2315
	Aldebaran E.	56 22 31	2405	54 39 3	2399	52 55 27	2396	51 11 46	2389
	Pollux E.	99 44 6	2318	97 58 33	2310	96 12 48	2301	94 26 50	2294
27	α Aquilæ W.	86 5 46	3101	87 33 55	3093	89 2 13	3087	90 30 38	3083
	Fomalhaut W.	56 47 57	2643	58 28 10	2627	60 8 46	2612	61 49 43	2600
	α Pegasi W.	38 21 17	3183	39 47 47	3110	41 15 44	3047	42 44 59	2989
	Aldebaran E.	42 32 44	2394	40 49 1	2398	39 5 24	2405	37 21 57	2415
	Pollux E.	85 34 19	2280	83 47 21	2264	82 0 14	2249	80 13 0	2245
28	Fomalhaut W.	70 18 30	2450	72 0 53	2443	73 43 26	2438	75 26 7	2433
	α Pegasi W.	50 26 47	2785	52 1 35	2756	53 37 1	2730	55 13 1	2707
	Pollux E.	71 15 21	2290	69 27 36	2227	67 39 48	2225	65 51 57	2223
	Regulus E.	107 55 3	2237	106 7 30	2235	104 19 54	2233	102 32 15	2231
29	Fomalhaut W.	84 0 50	2422	85 43 54	2421	87 26 59	2422	89 10 3	2423
	α Pegasi W.	63 19 38	2696	64 57 58	2615	66 36 33	2605	68 15 21	2597
	Pollux E.	56 52 25	2223	55 4 31	2223	53 16 38	2225	51 28 47	2227
	Regulus E.	93 33 37	2220	91 45 53	2231	89 58 11	2231	88 10 30	2233
30	Fomalhaut W.	97 44 36	2439	99 27 15	2445	101 9 46	2450	102 52 9	2457
	α Pegasi W.	76 31 31	2575	78 11 0	2574	79 50 30	2574	81 30 1	2574
	α Arietis W.	33 13 1	2289	34 56 51	2280	36 40 55	2279	38 25 10	2286
	Pollux E.	42 30 18	2239	40 42 48	2242	38 55 23	2246	37 8 4	2249
	Regulus E.	79 12 49	2245	77 25 29	2248	75 38 13	2251	73 51 2	2256
	SUN E.	118 19 54	2545	116 39 43	2548	114 59 36	2551	113 19 34	2555

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
22	VENUS W.	107° 25' 38"	3100	108° 53' 48"	3083	110° 22' 18"	3067	111° 51' 8"	3050
	Antares W.	76 12 29	2679	77 49 37	2664	79 27 5	2649	81 4 53	2635
	α Arietis E.	72 33 6	2739	70 57 8	2717	69 20 51	2704	67 44 17	2690
	JUPITER E.	96 35 16	2689	94 58 21	2675	93 21 7	2660	91 43 33	2644
	Aldebaran E.	103 1 45	2741	101 25 59	2725	99 49 52	2710	98 13 25	2694
23	Antares W.	89 18 54	2561	90 58 42	2547	92 38 50	2533	94 19 18	2518
	α Aquilæ W.	48 43 16	4339	49 49 39	4321	50 57 36	4137	52 7 2	4050
	α Arietis E.	59 36 56	2626	57 58 36	2614	56 20 0	2602	54 41 8	2591
	JUPITER E.	83 30 36	2571	81 51 1	2556	80 11 5	2542	78 30 50	2528
	Aldebaran E.	90 6 3	2620	88 27 35	2605	86 48 47	2591	85 9 40	2577
24	Antares W.	102 46 30	2450	104 28 53	2438	106 11 34	2425	107 54 33	2413
	α Aquilæ W.	58 13 50	2698	59 30 39	2682	60 48 28	2589	62 7 14	2541
	α Arietis E.	46 23 12	2544	44 43 0	2538	43 2 39	2531	41 22 9	2526
	JUPITER E.	70 4 47	2461	68 22 39	2448	66 40 13	2436	64 57 30	2424
	Aldebaran E.	76 49 27	2513	75 8 32	2501	73 27 20	2489	71 45 52	2479
25	α Aquilæ W.	68 53 27	3341	70 16 51	3310	71 40 51	3280	73 5 26	3253
	α Arietis E.	32 58 40	2528	31 18 6	2536	29 37 43	2547	27 57 35	2562
	JUPITER E.	56 19 47	2370	54 35 29	2361	52 50 58	2359	51 6 14	2343
	Aldebaran E.	63 14 55	2431	61 32 5	2423	59 49 3	2416	58 5 51	2410
	Pollux E.	106 43 58	2357	104 59 22	2347	103 14 31	2337	101 29 25	2328
26	α Aquilæ W.	80 15 27	3149	81 42 37	3134	83 10 5	3121	84 37 49	3110
	Fomalhaut W.	50 11 31	2624	51 49 53	2601	53 28 46	2580	55 8 8	2561
	JUPITER E.	42 19 43	2309	40 33 57	2304	38 48 4	2300	37 2 5	2297
	Aldebaran E.	49 28 0	2390	47 44 11	2389	46 0 21	2389	44 16 31	2391
	Pollux E.	92 40 41	2285	90 54 21	2279	89 7 50	2279	87 21 9	2266
27	α Aquilæ W.	91 59 8	3081	93 27 41	3080	94 56 15	3082	96 24 47	3085
	Fomalhaut W.	63 30 58	2487	65 12 30	2476	66 54 17	2467	68 36 17	2458
	α Pegasi W.	44 15 25	2939	45 46 55	2894	47 19 22	2853	48 52 41	2817
	Aldebaran E.	35 38 43	2426	33 55 45	2441	32 13 8	2458	30 30 56	2481
	Pollux E.	78 25 39	2241	76 38 12	2237	74 50 40	2234	73 3 3	2231
28	Fomalhaut W.	77 8 55	2429	78 51 48	2426	80 34 46	2424	82 17 47	2422
	α Pegasi W.	56 49 31	2687	58 26 29	2669	60 3 51	2652	61 41 35	2638
	Pollux E.	64 4 4	2223	62 16 10	2222	60 28 15	2222	58 40 20	2222
	Regulus E.	100 44 33	2230	98 56 50	2229	97 9 6	2229	95 21 21	2229
29	Fomalhaut W.	90 53 5	2425	92 36 4	2427	94 19 0	2431	96 1 51	2435
	α Pegasi W.	69 54 20	2591	71 33 28	2585	73 12 44	2581	74 52 5	2577
	Pollux E.	49 40 59	2228	47 53 13	2231	46 5 31	2233	44 17 52	2236
	Regulus E.	86 22 52	2235	84 35 16	2237	82 47 43	2239	81 0 14	2242
30	Fomalhaut W.	104 34 23	2464	106 16 27	2472	107 58 19	2481	109 39 59	2490
	α Pegasi W.	83 9 32	2575	84 49 1	2577	86 28 27	2580	88 7 49	2585
	α Arietis W.	40 9 34	2361	41 54 5	2357	43 38 41	2355	45 23 21	2353
	Pollux E.	35 20 50	2253	33 33 42	2258	31 46 41	2263	29 59 47	2268
	Regulus E.	72 3 57	2260	70 16 58	2264	68 30 5	2268	66 43 19	2273
	Sun E.	111 39 37	2550	109 59 46	2563	108 20 0	2568	106 40 21	2573

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sidereal Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		^h ^m ^s	^s	[°] ['] ["]	["]	['] ["]	^s	^m ^s	^s
SUN.	1	12 31 16.09	9.061	S. 3 22 37.8	-58.21	16 1.55	64.39	10 28.30	0.794
Mon.	2	12 34 53.70	9.074	3 45 53.8	58.12	16 1.82	64.44	10 47.19	0.780
Tues.	3	12 38 31.65	9.089	4 9 7.5	58.01	16 2.09	64.48	11 5.75	0.766
Wed.	4	12 42 9.96	9.104	4 32 18.3	-57.89	16 2.37	64.54	11 23.94	0.750
Thur.	5	12 45 48.64	9.120	4 55 26.0	57.75	16 2.64	64.59	11 41.77	0.734
Frid.	6	12 49 27.72	9.137	5 18 30.1	57.59	16 2.91	64.65	11 59.19	0.717
Sat.	7	12 53 7.22	9.154	5 41 30.3	-57.42	16 3.18	64.71	12 16.20	0.700
SUN.	8	12 56 47.14	9.173	6 4 26.2	57.23	16 3.46	64.77	12 32.79	0.682
Mon.	9	13 0 27.51	9.192	6 27 17.4	57.03	16 3.73	64.84	12 48.93	0.663
Tues.	10	13 4 8.34	9.211	6 50 3.5	-56.81	16 4.01	64.90	13 4.61	0.643
Wed.	11	13 7 49.66	9.231	7 12 44.1	56.57	16 4.29	64.98	13 19.80	0.623
Thur.	12	13 11 31.46	9.252	7 35 18.8	56.31	16 4.57	65.05	13 34.51	0.602
Frid.	13	13 15 13.77	9.274	7 57 47.1	-56.04	16 4.85	65.13	13 48.72	0.581
Sat.	14	13 18 56.61	9.296	8 20 8.7	55.75	16 5.13	65.21	14 2.39	0.559
SUN.	15	13 22 39.98	9.319	8 42 23.2	55.45	16 5.41	65.29	14 15.54	0.536
Mon.	16	13 26 23.92	9.343	9 4 30.1	-55.12	16 5.69	65.37	14 28.12	0.512
Tues.	17	13 30 8.43	9.367	9 26 29.2	54.79	16 5.96	65.46	14 40.14	0.489
Wed.	18	13 33 53.52	9.392	9 48 19.9	54.43	16 6.24	65.55	14 51.57	0.464
Thur.	19	13 37 39.22	9.417	10 10 2.0	-54.06	16 6.52	65.64	15 2.39	0.439
Frid.	20	13 41 25.52	9.444	10 31 34.9	53.68	16 6.79	65.74	15 12.62	0.412
Sat.	21	13 45 12.49	9.471	10 52 58.5	53.28	16 7.07	65.83	15 22.17	0.385
SUN.	22	13 49 0.10	9.498	11 14 12.2	-52.86	16 7.34	65.93	15 31.10	0.358
Mon.	23	13 52 48.39	9.527	11 35 15.7	52.42	16 7.61	66.03	15 39.34	0.329
Tues.	24	13 56 37.36	9.556	11 56 8.6	51.98	16 7.87	66.13	15 46.90	0.300
Wed.	25	14 0 27.06	9.586	12 16 50.7	-51.52	16 8.14	66.23	15 53.74	0.270
Thur.	26	14 4 17.47	9.616	12 37 21.4	51.04	16 8.40	66.34	15 59.87	0.240
Frid.	27	14 8 8.64	9.648	12 57 40.5	50.54	16 8.65	66.45	16 5.24	0.208
Sat.	28	14 12 0.57	9.680	13 17 47.5	-50.03	16 8.91	66.55	16 9.86	0.176
SUN.	29	14 15 53.27	9.712	13 37 42.1	49.51	16 9.16	66.66	16 13.70	0.144
Mon.	30	14 19 46.75	9.745	13 57 23.8	48.96	16 9.41	66.78	16 16.76	0.110
Tues.	31	14 23 41.06	9.780	14 16 52.3	48.40	16 9.65	66.89	16 19.00	0.077
Wed.	32	14 27 36.17	9.813	S. 14 36 7.2	-47.83	16 9.86	67.00	16 20.45	0.043

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.18 from the sidereal time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
<i>SUN.</i>	1	^h 12 ^m 31 ^s 17.67	9.063	S. [°] 3 ['] 22 ["] 47.9	-58.22	^m 10 ^s 28.44	0.794	^h 12 ^m 41 ^s 46.11
Mon.	2	12 34 55.33	9.076	3 46 4.3	58.13	10 47.33	0.780	12 45 42.66
Tues.	3	12 38 33.33	9.091	4 9 18.2	58.02	11 5.89	0.766	12 49 39.22
Wed.	4	12 42 11.69	9.106	4 32 29.3	-57.90	11 24.08	0.750	12 53 35.77
Thur.	5	12 45 50.42	9.122	4 55 37.2	57.76	11 41.91	0.734	12 57 32.33
Frid.	6	12 49 29.55	9.139	5 18 41.6	57.60	11 59.33	0.717	13 1 28.88
Sat.	7	12 53 9.09	9.156	5 41 42.0	-57.43	12 16.34	0.700	13 5 25.43
<i>SUN.</i>	8	12 56 49.06	9.175	6 4 38.2	57.24	12 32.93	0.682	13 9 21.99
Mon.	9	13 0 29.47	9.194	6 27 29.6	57.03	12 49.07	0.663	13 13 18.54
Tues.	10	13 4 10.35	9.213	6 50 15.8	-56.81	13 4.75	0.643	13 17 15.10
Wed.	11	13 7 51.71	9.233	7 12 56.6	56.58	13 19.94	0.623	13 21 11.65
Thur.	12	13 11 33.55	9.254	7 35 31.5	56.32	13 34.65	0.602	13 25 8.20
Frid.	13	13 15 15.91	9.276	7 58 0.0	-56.05	13 48.85	0.581	13 29 4.76
Sat.	14	13 18 58.79	9.298	8 20 21.7	55.76	14 2.52	0.559	13 33 1.31
<i>SUN.</i>	15	13 22 42.20	9.321	8 42 36.3	55.45	14 15.67	0.536	13 36 57.87
Mon.	16	13 26 26.18	9.344	9 4 43.4	-55.13	14 28.24	0.512	13 40 54.42
Tues.	17	13 30 10.72	9.368	9 26 42.6	54.79	14 40.26	0.488	13 44 50.98
Wed.	18	13 33 55.85	9.393	9 48 33.4	54.44	14 51.68	0.463	13 48 47.53
Thur.	19	13 37 41.58	9.418	10 10 15.5	-54.06	15 2.50	0.438	13 52 44.08
Frid.	20	13 41 27.92	9.445	10 31 48.5	53.68	15 12.72	0.412	13 56 40.64
Sat.	21	13 45 14.92	9.472	10 53 12.1	53.28	15 22.27	0.385	14 0 37.19
<i>SUN.</i>	22	13 49 2.56	9.499	11 14 25.8	-52.86	15 31.19	0.357	14 4 33.75
Mon.	23	13 52 50.88	9.528	11 35 29.4	52.43	15 39.42	0.329	14 8 30.30
Tues.	24	13 56 39.88	9.557	11 56 22.3	51.98	15 46.98	0.300	14 12 26.86
Wed.	25	14 0 29.60	9.587	12 17 4.3	-51.51	15 53.81	0.270	14 16 23.41
Thur.	26	14 4 20.04	9.617	12 37 35.0	51.04	15 59.93	0.239	14 20 19.97
Frid.	27	14 8 11.23	9.649	12 57 54.0	50.54	16 5.29	0.208	14 24 16.52
Sat.	28	14 12 3.18	9.681	13 18 1.0	-50.03	16 9.90	0.176	14 28 13.08
<i>SUN.</i>	29	14 15 55.90	9.713	13 37 55.4	49.50	16 13.74	0.144	14 32 9.64
Mon.	30	14 19 49.40	9.746	13 57 37.1	48.96	16 16.79	0.110	14 36 6.19
Tues.	31	14 23 43.72	9.780	14 17 5.4	48.40	16 19.02	0.076	14 40 2.74
Wed.	32	14 27 38.84	9.814	S. 14 36 20.2	-47.82	16 20.46	0.043	14 43 59.30

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 Hour,
+9".8565.
(Table III.)

AT GREENWICH MEAN NOON.

Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	274	188° 31' 26.5	30' 54.9	147.67	+ 0.46	0.0002023	-51.0	^h 11 ^m 16 ^s 22.78
2	275	189 30 31.7	30 0.0	147.76	0.51	0.0000799	51.0	11 12 26.87
3	276	190 29 39.2	29 7.4	147.86	0.53	9.9999575	51.0	11 8 30.96
4	277	191 28 49.0	28 17.1	147.96	+ 0.51	9.9998351	-51.1	11 4 35.06
5	278	192 28 1.1	27 29.1	148.05	0.46	9.9997124	51.2	11 0 39.14
6	279	193 27 15.6	26 43.5	148.15	0.39	9.9995893	51.4	10 56 43.24
7	280	194 26 32.4	26 0.1	148.25	+ 0.29	9.9994659	-51.5	10 52 47.32
8	281	195 25 51.4	25 19.0	148.34	0.17	9.9993421	51.7	10 48 51.42
9	282	196 25 12.5	24 40.0	148.42	+ 0.03	9.9992179	51.8	10 44 55.51
10	283	197 24 35.7	24 3.1	148.51	- 0.10	9.9990933	-52.0	10 40 59.60
11	284	198 24 1.0	23 28.3	148.60	0.23	9.9989682	" 52.2	10 37 3.70
12	285	199 23 28.3	22 55.5	148.68	0.36	9.9988428	52.3	10 33 7.79
13	286	200 22 57.5	22 24.5	148.76	- 0.47	9.9987171	-52.4	10 29 11.88
14	287	201 22 28.5	21 55.4	148.83	0.56	9.9985912	52.5	10 25 15.97
15	288	202 22 1.3	21 28.1	148.90	0.62	9.9984653	52.4	10 21 20.06
16	289	203 21 35.9	21 2.6	148.98	- 0.65	9.9983395	-52.4	10 17 24.16
17	290	204 21 12.3	20 38.9	149.05	0.66	9.9982140	52.2	10 13 28.24
18	291	205 20 50.4	20 16.8	149.12	0.64	9.9980890	52.0	10 9 32.34
19	292	206 20 30.2	19 56.5	149.20	- 0.58	9.9979646	-51.7	10 5 36.43
20	293	207 20 11.8	19 38.0	149.27	0.50	9.9978409	51.4	10 1 40.52
21	294	208 19 55.2	19 21.2	149.34	0.40	9.9977181	50.9	9 57 44.62
22	295	209 19 40.3	19 6.2	149.42	- 0.28	9.9975964	-50.4	9 53 48.70
23	296	210 19 27.2	18 53.0	149.49	0.15	9.9974760	49.9	9 49 52.80
24	297	211 19 16.0	18 41.6	149.57	- 0.02	9.9973568	49.4	9 45 56.88
25	298	212 19 6.7	18 32.2	149.65	+ 0.10	9.9972389	-48.9	9 42 0.98
26	299	213 18 59.4	18 24.8	149.74	0.21	9.9971223	48.3	9 38 5.07
27	300	214 18 54.1	18 19.4	149.82	0.31	9.9970070	47.7	9 34 9.16
28	301	215 18 50.8	18 15.9	149.92	+ 0.39	9.9968932	-47.1	9 30 13.25
29	302	216 18 49.6	18 14.6	149.99	0.43	9.9967808	46.6	9 26 17.33
30	303	217 18 50.5	18 15.3	150.08	0.44	9.9966697	46.1	9 22 21.43
31	304	218 18 53.6	18 18.3	150.19	0.42	9.9965597	45.6	9 18 25.52
32	305	219 18 58.9	18 23.5	150.26	+ 0.38	9.9964508	-45.2	9 14 29.61

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0th.

Diff. for 1 Hour.
— 9^h. 32^m. 96^s.
(Table II.)

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	16' 13.5	16' 11.5	59' 26.1	-0.55	59' 18.8	-0.66	17 ^h 32.9 ^m	2.63	21.2
2	16' 9.1	16' 6.5	59' 10.2	0.76	59' 0.6	0.83	18 35.1	2.54	22.2
3	16' 3.7	16' 0.7	58' 50.3	0.90	58' 39.1	0.96	19 34.3	2.37	23.2
4	15' 57.4	15' 54.1	58' 27.3	-1.00	58' 15.0	-1.05	20 28.7	2.18	24.2
5	15' 50.6	15' 47.0	58' 2.2	1.09	57' 48.9	1.13	21 18.8	2.00	25.2
6	15' 43.2	15' 39.4	57' 35.1	1.17	57' 20.9	1.20	22 5.4	1.88	26.2
7	15' 35.4	15' 31.4	57' 6.4	-1.23	56' 51.5	-1.25	22 49.5	1.80	27.2
8	15' 27.3	15' 23.1	56' 36.4	1.27	56' 21.1	1.28	23 32.2	1.77	28.2
9	15' 18.9	15' 14.8	56' 5.8	1.27	55' 50.6	1.25	6		29.2
10	15' 10.8	15' 6.8	55' 35.8	-1.22	55' 21.4	-1.18	0 14.8	1.79	0.6
11	15' 3.1	14' 59.6	55' 7.6	1.11	54' 54.8	1.02	0 58.3	1.84	1.6
12	14' 56.4	14' 53.6	54' 43.1	0.92	54' 32.7	0.80	1 43.2	1.92	2.6
13	14' 51.1	14' 49.2	54' 23.8	-0.67	54' 16.7	-0.51	2 30.5	2.01	3.6
14	14' 47.8	14' 47.0	54' 11.6	-0.34	54' 8.5	-0.16	3 19.8	2.09	4.6
15	14' 46.8	14' 47.2	54' 7.7	+0.03	54' 9.3	+0.24	4 10.7	2.14	5.6
16	14' 48.3	14' 50.1	54' 13.4	+0.45	54' 20.1	+0.66	5 2.2	2.15	6.6
17	14' 52.6	14' 55.9	54' 29.3	0.88	54' 41.2	1.10	5 53.4	2.11	7.6
18	14' 59.8	15' 4.4	54' 55.6	1.30	55' 12.4	1.50	6 43.4	2.05	8.6
19	15' 9.6	15' 15.4	55' 31.5	+1.68	55' 52.7	+1.85	7 31.6	1.98	9.6
20	15' 21.6	15' 28.3	56' 15.8	1.98	56' 40.3	2.09	8 18.4	1.92	10.6
21	15' 35.3	15' 42.4	57' 6.0	2.16	57' 32.2	2.20	9 4.1	1.89	11.6
22	15' 49.7	15' 56.7	57' 58.7	+2.19	58' 24.7	+2.13	9 49.8	1.91	12.6
23	16' 3.5	16' 9.9	58' 49.7	2.02	59' 13.1	1.86	10 36.6	1.99	13.6
24	16' 15.7	16' 20.8	59' 34.4	1.66	59' 52.9	1.41	11 26.0	2.12	14.6
25	16' 24.9	16' 28.1	60' 8.2	+1.12	60' 19.8	+0.82	12 18.8	2.30	15.6
26	16' 30.3	16' 31.4	60' 27.9	+0.51	60' 32.0	+0.18	13 16.4	2.50	16.6
27	16' 31.5	16' 30.5	60' 32.2	-0.14	60' 28.7	-0.44	14 18.5	2.66	17.6
28	16' 28.6	16' 25.9	60' 21.7	-0.71	60' 11.7	-0.95	15 23.4	2.72	18.6
29	16' 22.4	16' 18.4	59' 59.0	1.15	59' 44.1	1.31	16 27.9	2.64	19.6
30	16' 13.8	16' 9.0	59' 27.5	1.43	59' 9.7	1.52	17 29.2	2.46	20.6
31	16' 3.9	15' 58.7	58' 51.0	1.58	58' 31.8	1.60	18 25.5	2.24	21.6
32	15' 53.4	15' 48.2	58' 12.5	-1.60	57' 53.2	-1.58	19 16.7	2.04	22.6

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 1.					TUESDAY 3.				
0	5 30 24.88	2.6787	N.28 1' 17.0"	3.978	0	7 37 53.80	2.5713	N.26 53' 43.4"	5.883
1	5 33 5.66	2.6804	28 4 27.8	3.089	1	7 40 27.91	2.5658	26 47 44.7	6.064
2	5 35 46.53	2.6819	28 7 26.8	2.885	2	7 43 1.68	2.5598	26 41 35.7	6.304
3	5 38 27.49	2.6832	28 10 14.0	2.688	3	7 45 35.09	2.5538	26 35 16.6	6.483
4	5 41 8.52	2.6844	28 12 49.3	2.490	4	7 48 8.14	2.5478	26 28 47.4	6.579
5	5 43 49.62	2.6855	28 15 12.8	2.293	5	7 50 40.83	2.5417	26 22 8.2	6.735
6	5 46 30.78	2.6863	28 17 24.5	2.096	6	7 53 13.14	2.5354	26 15 19.2	6.898
7	5 49 11.98	2.6870	28 19 24.3	1.898	7	7 55 45.08	2.5291	26 8 20.4	7.061
8	5 51 53.22	2.6875	28 21 12.2	1.699	8	7 58 16.64	2.5227	26 1 11.8	7.224
9	5 54 34.48	2.6878	28 22 48.2	1.501	9	8 0 47.81	2.5163	25 53 53.5	7.384
10	5 57 15.75	2.6879	28 24 12.3	1.303	10	8 3 18.59	2.5098	25 46 25.7	7.548
11	5 59 57.03	2.6879	28 25 24.5	1.104	11	8 5 48.98	2.5033	25 38 48.4	7.699
12	6 2 38.30	2.6877	28 26 24.8	0.906	12	8 8 18.98	2.4967	25 31 1.8	7.854
13	6 5 19.55	2.6873	28 27 13.2	0.707	13	8 10 48.58	2.4899	25 23 5.9	8.008
14	6 8 0.78	2.6867	28 27 49.7	0.509	14	8 13 17.77	2.4830	25 15 0.8	8.161
15	6 10 41.96	2.6859	28 28 14.3	0.312	15	8 15 46.54	2.4761	25 6 46.6	8.312
16	6 13 23.09	2.6851	28 28 27.1	+ 0.114	16	8 18 14.90	2.4692	24 58 23.4	8.461
17	6 16 4.17	2.6841	28 28 28.0	- 0.084	17	8 20 42.85	2.4624	24 49 51.3	8.609
18	6 18 45.18	2.6828	28 28 17.0	0.282	18	8 23 10.39	2.4555	24 41 10.3	8.756
19	6 21 26.11	2.6813	28 27 54.2	0.479	19	8 25 37.51	2.4484	24 32 20.6	8.900
20	6 24 6.94	2.6797	28 27 19.6	0.676	20	8 28 4.20	2.4413	24 23 22.3	9.042
21	6 26 47.67	2.6779	28 26 33.1	0.873	21	8 30 30.47	2.4349	24 14 15.5	9.183
22	6 29 28.20	2.6760	28 25 34.9	1.068	22	8 32 56.31	2.4271	24 5 0.3	9.323
23	6 32 8.79	2.6739	N.28 24 25.0	1.263	23	8 35 21.72	2.4190	N.23 55 36.8	9.461
MONDAY 2.					WEDNESDAY 4.				
0	6 34 49.16	2.6716	N.28 23 3.3	1.459	0	8 37 46.71	2.4128	N.23 46 5.0	9.596
1	6 37 29.38	2.6691	28 21 29.9	1.653	1	8 40 11.26	2.4056	23 36 25.0	9.733
2	6 40 9.45	2.6665	28 19 44.9	1.847	2	8 42 35.38	2.3984	23 26 37.0	9.866
3	6 42 49.36	2.6637	28 17 48.3	2.040	3	8 44 59.07	2.3912	23 16 41.1	9.997
4	6 45 29.10	2.6607	28 15 40.1	2.232	4	8 47 22.33	2.3840	23 6 37.3	10.127
5	6 48 8.65	2.6576	28 13 20.4	2.424	5	8 49 45.15	2.3767	22 56 25.8	10.255
6	6 50 48.01	2.6543	28 10 49.2	2.616	6	8 52 7.54	2.3695	22 46 6.7	10.389
7	6 53 27.17	2.6510	28 8 6.6	2.806	7	8 54 29.49	2.3623	22 35 40.0	10.507
8	6 56 6.13	2.6474	28 5 12.5	2.996	8	8 56 51.01	2.3551	22 25 5.9	10.630
9	6 58 44.86	2.6436	28 2 7.1	3.184	9	8 59 12.10	2.3478	22 14 24.4	10.752
10	7 1 23.36	2.6397	27 58 50.4	3.373	10	9 1 32.75	2.3405	22 3 35.7	10.872
11	7 4 1.63	2.6357	27 55 22.4	3.559	11	9 3 52.96	2.3333	21 52 39.8	10.990
12	7 6 39.65	2.6316	27 51 43.3	3.745	12	9 6 12.74	2.3261	21 41 36.9	11.107
13	7 9 17.42	2.6273	27 47 53.0	3.931	13	9 8 32.09	2.3188	21 30 27.0	11.222
14	7 11 54.92	2.6228	27 43 51.6	4.114	14	9 10 51.00	2.3116	21 19 10.3	11.334
15	7 14 32.15	2.6183	27 39 39.3	4.297	15	9 13 9.48	2.3044	21 7 46.9	11.446
16	7 17 9.11	2.6136	27 35 16.0	4.479	16	9 15 27.53	2.2973	20 56 16.8	11.556
17	7 19 45.78	2.6087	27 30 41.8	4.660	17	9 17 45.16	2.2902	20 44 40.2	11.664
18	7 22 22.15	2.6037	27 25 56.8	4.840	18	9 20 2.96	2.2830	20 32 57.1	11.771
19	7 24 58.22	2.5986	27 21 1.0	5.019	19	9 22 19.14	2.2761	20 21 7.7	11.876
20	7 27 33.98	2.5934	27 15 54.5	5.196	20	9 24 35.49	2.2689	20 9 12.0	11.980
21	7 30 9.43	2.5882	27 10 37.5	5.372	21	9 26 51.41	2.2618	19 57 10.1	12.083
22	7 32 44.56	2.5827	27 5 9.9	5.547	22	9 29 6.91	2.2549	19 45 2.2	12.181
23	7 35 19.35	2.5770	26 59 31.8	5.721	23	9 31 22.00	2.2480	19 32 48.4	12.279
24	7 37 53.80	2.5713	N.26 53 43.4	5.893	24	9 33 36.67	2.2410	N.19 20 28.7	12.377

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 5.					SATURDAY 7.				
0	9 33 36.67	2.9410	N. 19° 20' 28.7"	12.377	0	11 14 15.10	1.9779	N. 8° 4' 29.6"	15.998
1	9 35 50.92	2.9342	19 8 3.2	12.472	1	11 16 13.66	1.9742	7 49 15.2	15.953
2	9 38 4.77	2.9274	18 55 32.1	12.565	2	11 18 12.00	1.9705	7 33 59.3	15.977
3	9 40 18.21	2.9206	18 42 55.4	12.657	3	11 20 10.12	1.9669	7 18 42.0	15.999
4	9 42 31.24	2.9138	18 30 13.3	12.747	4	11 22 8.03	1.9634	7 3 23.4	15.991
5	9 44 43.87	2.9071	18 17 25.8	12.836	5	11 24 5.73	1.9600	6 48 3.5	15.941
6	9 46 56.09	2.9004	18 4 33.0	12.923	6	11 26 3.23	1.9567	6 32 42.5	15.959
7	9 49 7.92	2.8938	17 51 35.0	13.008	7	11 28 0.53	1.9534	6 17 20.4	15.977
8	9 51 19.35	2.8872	17 38 32.0	13.092	8	11 29 57.64	1.9509	6 1 57.3	15.993
9	9 53 30.39	2.8807	17 25 24.0	13.174	9	11 31 54.56	1.9471	5 46 33.2	15.409
10	9 55 41.04	2.8743	17 12 11.1	13.255	10	11 33 51.29	1.9441	5 31 8.2	15.423
11	9 57 51.31	2.8679	16 58 53.4	13.334	11	11 35 47.85	1.9412	5 15 42.4	15.435
12	10 0 1.19	2.8615	16 45 31.0	13.412	12	11 37 44.23	1.9383	5 0 16.0	15.446
13	10 2 10.69	2.8553	16 32 4.0	13.488	13	11 39 40.44	1.9355	4 44 48.9	15.457
14	10 4 19.82	2.8491	16 18 32.5	13.562	14	11 41 36.49	1.9328	4 29 21.2	15.467
15	10 6 28.58	2.8429	16 4 56.6	13.635	15	11 43 32.38	1.9302	4 13 52.9	15.475
16	10 8 36.97	2.8368	15 51 16.3	13.707	16	11 45 28.11	1.9275	3 58 24.2	15.482
17	10 10 44.99	2.8307	15 37 31.8	13.777	17	11 47 23.68	1.9249	3 42 55.1	15.487
18	10 12 52.65	2.8247	15 23 43.1	13.845	18	11 49 19.10	1.9225	3 27 25.8	15.491
19	10 14 59.96	2.8188	15 9 50.4	13.912	19	11 51 14.38	1.9202	3 11 56.2	15.495
20	10 17 6.91	2.8129	14 55 53.7	13.977	20	11 53 9.53	1.9180	2 56 26.4	15.497
21	10 19 13.51	2.8072	14 41 53.1	14.041	21	11 55 4.54	1.9158	2 40 56.6	15.497
22	10 21 19.77	2.8015	14 27 48.8	14.103	22	11 56 59.43	1.9137	2 25 26.8	15.497
23	10 23 25.69	2.0958	N. 14 13 40.8	14.164	23	11 58 54.19	1.9117	N. 2 9 56.9	15.497
FRIDAY 6.					SUNDAY 8.				
0	10 25 31.26	2.0901	N. 13 59 29.1	14.224	0	12 0 48.83	1.9097	N. 1 54 27.1	15.495
1	10 27 36.50	2.0846	13 45 13.9	14.282	1	12 2 43.35	1.9078	1 38 57.5	15.491
2	10 29 41.42	2.0792	13 30 55.3	14.338	2	12 4 37.77	1.9061	1 23 28.2	15.486
3	10 31 46.01	2.0738	13 16 33.4	14.393	3	12 6 32.08	1.9043	1 7 59.2	15.480
4	10 33 50.28	2.0686	13 2 8.2	14.447	4	12 8 26.29	1.9027	0 52 30.6	15.473
5	10 35 54.24	2.0633	12 47 39.8	14.498	5	12 10 20.40	1.9011	0 37 2.4	15.466
6	10 37 57.88	2.0581	12 33 8.4	14.548	6	12 12 14.42	1.8996	0 21 34.7	15.457
7	10 40 1.21	2.0530	12 18 34.0	14.598	7	12 14 8.35	1.8982	N. 0 6 7.6	15.447
8	10 42 4.24	2.0480	12 3 56.6	14.647	8	12 16 2.20	1.8968	S. 0 9 18.9	15.436
9	10 44 6.97	2.0430	11 49 16.4	14.693	9	12 17 55.97	1.8955	0 24 44.7	15.423
10	10 46 9.40	2.0382	11 34 33.5	14.738	10	12 19 49.66	1.8943	0 40 9.7	15.410
11	10 48 11.55	2.0334	11 19 47.9	14.782	11	12 21 43.29	1.8932	0 55 33.9	15.396
12	10 50 13.41	2.0287	11 4 59.7	14.824	12	12 23 36.85	1.8922	1 10 57.2	15.380
13	10 52 14.99	2.0240	10 50 9.0	14.865	13	12 25 30.35	1.8912	1 26 19.5	15.363
14	10 54 16.29	2.0194	10 35 15.9	14.905	14	12 27 23.79	1.8903	1 41 40.8	15.346
15	10 56 17.32	2.0149	10 20 20.4	14.943	15	12 29 17.18	1.8894	1 57 1.0	15.327
16	10 58 18.08	2.0105	10 5 22.7	14.979	16	12 31 10.52	1.8886	2 12 20.1	15.308
17	11 0 18.58	2.0062	9 50 22.9	15.015	17	12 33 3.82	1.8879	2 27 38.0	15.287
18	11 2 18.82	2.0019	9 35 20.9	15.050	18	12 34 57.07	1.8872	2 42 54.6	15.266
19	11 4 18.81	1.9977	9 20 16.9	15.082	19	12 36 50.29	1.8867	2 58 9.9	15.243
20	11 6 18.55	1.9936	9 5 11.0	15.113	20	12 38 43.48	1.8862	3 13 23.8	15.219
21	11 8 18.04	1.9895	8 50 3.3	15.143	21	12 40 36.64	1.8858	3 28 36.2	15.194
22	11 10 17.29	1.9856	8 34 53.8	15.173	22	12 42 29.78	1.8855	3 43 47.1	15.168
23	11 12 16.31	1.9817	8 19 42.5	15.202	23	12 44 22.90	1.8852	3 58 56.4	15.142
24	11 14 15.10	1.9779	N. 8 4 29.6	15.228	24	12 46 16.00	1.8849	S. 4 14 4.1	15.114

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 9.					WEDNESDAY 11.				
0	12 46 16.00	1.8849	S. 4 14 4.1	15.114	0	14 17 42.83	1.9473	S. 15 29 6.7	12.657
1	12 48 9.09	1.8848	4 29 10.1	15.085	1	14 19 39.75	1.9500	15 41 43.9	12.583
2	12 50 2.18	1.8848	4 44 14.3	15.055	2	14 21 36.83	1.9528	15 54 16.6	12.508
3	12 51 55.27	1.8848	4 59 16.7	15.024	3	14 23 34.06	1.9558	16 6 44.9	12.433
4	12 53 48.36	1.8848	5 14 17.2	14.992	4	14 25 31.45	1.9579	16 19 8.6	12.357
5	12 55 41.45	1.8849	5 29 15.8	14.960	5	14 27 29.01	1.9607	16 31 27.7	12.280
6	12 57 34.55	1.8851	5 44 12.4	14.926	6	14 29 26.74	1.9635	16 43 42.2	12.202
7	12 59 27.66	1.8854	5 59 6.9	14.891	7	14 31 24.63	1.9663	16 55 52.0	12.123
8	13 1 20.79	1.8858	6 13 59.3	14.855	8	14 33 22.69	1.9692	17 7 57.0	12.044
9	13 3 13.95	1.8863	6 28 49.5	14.818	9	14 35 20.93	1.9721	17 19 57.3	11.964
10	13 5 7.14	1.8867	6 43 37.5	14.781	10	14 37 19.34	1.9749	17 31 52.7	11.888
11	13 7 0.35	1.8871	6 58 23.2	14.742	11	14 39 17.92	1.9778	17 43 43.2	11.800
12	13 8 53.59	1.8877	7 13 6.6	14.703	12	14 41 16.68	1.9808	17 55 28.7	11.717
13	13 10 46.87	1.8884	7 27 47.6	14.662	13	14 43 15.62	1.9838	18 7 9.2	11.633
14	13 12 40.20	1.8890	7 42 26.1	14.620	14	14 45 14.74	1.9869	18 18 44.7	11.549
15	13 14 33.57	1.8899	7 57 2.0	14.577	15	14 47 14.05	1.9900	18 30 15.1	11.464
16	13 16 26.99	1.8907	8 11 35.3	14.534	16	14 49 13.54	1.9931	18 41 40.4	11.378
17	13 18 20.46	1.8916	8 26 6.0	14.490	17	14 51 13.22	1.9962	18 53 0.5	11.291
18	13 20 13.98	1.8926	8 40 34.1	14.445	18	14 53 13.09	1.9994	19 4 15.3	11.203
19	13 22 7.57	1.8937	8 54 59.4	14.398	19	14 55 13.15	2.0026	19 15 24.8	11.114
20	13 24 1.22	1.8947	9 9 21.9	14.351	20	14 57 13.40	2.0058	19 26 29.0	11.025
21	13 25 54.93	1.8958	9 23 41.5	14.309	21	14 59 13.84	2.0090	19 37 27.8	10.935
22	13 27 48.71	1.8970	9 37 58.2	14.263	22	15 1 14.48	2.0122	19 48 21.2	10.843
23	13 29 42.57	1.8983	S. 9 52 11.9	14.203	23	15 3 15.31	2.0155	S. 19 59 9.0	10.751
TUESDAY 10.					THURSDAY 12.				
0	13 31 36.51	1.8997	S. 10 6 22.6	14.153	0	15 5 16.34	2.0188	S. 20 9 51.3	10.656
1	13 33 30.53	1.9010	10 20 30.2	14.101	1	15 7 17.57	2.0221	20 20 28.0	10.565
2	13 35 24.63	1.9024	10 34 34.7	14.047	2	15 9 19.00	2.0254	20 30 59.1	10.471
3	13 37 18.82	1.9039	10 48 35.9	13.993	3	15 11 20.62	2.0288	20 41 24.5	10.376
4	13 39 13.10	1.9055	11 2 33.9	13.939	4	15 13 22.45	2.0322	20 51 44.2	10.280
5	13 41 7.48	1.9071	11 16 28.6	13.883	5	15 15 24.48	2.0356	21 1 58.1	10.183
6	13 43 1.95	1.9088	11 30 19.9	13.827	6	15 17 26.72	2.0390	21 12 6.2	10.086
7	13 44 56.53	1.9105	11 44 7.8	13.769	7	15 19 29.16	2.0424	21 22 8.4	9.987
8	13 46 51.21	1.9123	11 57 52.2	13.711	8	15 21 31.81	2.0458	21 32 4.7	9.888
9	13 48 46.00	1.9141	12 11 33.1	13.652	9	15 23 34.66	2.0492	21 41 55.0	9.788
10	13 50 40.90	1.9159	12 25 10.4	13.592	10	15 25 37.71	2.0526	21 51 39.3	9.687
11	13 52 35.91	1.9178	12 38 44.1	13.531	11	15 27 40.97	2.0561	22 1 17.5	9.586
12	13 54 31.04	1.9198	12 52 14.1	13.469	12	15 29 44.44	2.0595	22 10 49.6	9.484
13	13 56 26.29	1.9219	13 5 40.3	13.406	13	15 31 48.11	2.0629	22 20 15.5	9.381
14	13 58 21.67	1.9240	13 19 2.8	13.342	14	15 33 51.99	2.0664	22 29 35.3	9.278
15	14 0 17.17	1.9261	13 32 21.4	13.277	15	15 35 56.08	2.0699	22 38 48.9	9.174
16	14 2 12.80	1.9283	13 45 36.1	13.212	16	15 38 0.38	2.0733	22 47 56.2	9.068
17	14 4 8.56	1.9305	13 58 46.8	13.145	17	15 40 4.88	2.0767	22 56 57.1	8.962
18	14 6 4.46	1.9328	14 11 53.5	13.078	18	15 42 9.59	2.0802	23 5 51.7	8.856
19	14 8 0.49	1.9351	14 24 56.1	13.010	19	15 44 14.51	2.0837	23 14 39.8	8.748
20	14 9 56.67	1.9375	14 37 54.7	12.942	20	15 46 19.63	2.0871	23 23 21.5	8.641
21	14 11 52.99	1.9399	14 50 49.1	12.871	21	15 48 24.96	2.0906	23 31 56.7	8.533
22	14 13 49.46	1.9423	15 3 39.2	12.800	22	15 50 30.50	2.0940	23 40 25.3	8.426
23	14 15 46.07	1.9447	15 16 25.1	12.729	23	15 52 36.24	2.0974	23 48 47.3	8.319
24	14 17 42.83	1.9473	S. 15 29 6.7	12.657	24	15 54 42.19	2.1008	S. 23 57 2.7	8.201

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 13.					SUNDAY 15.				
0	^b 15 ^m 54 ^s 42.19	2.1006	S. 23° 57' 2.7"	8.901	0	^b 17 ^m 38 ^s 57.94	2.9273	S. 28° 11' 18.0"	2.199
1	15 56 48.34	2.1043	24 5 11.4	8.069	1	17 41 11.62	2.9287	28 13 25.9	2.063
2	15 58 54.70	2.1077	24 13 13.4	7.977	2	17 43 25.38	2.9299	28 15 25.6	1.977
3	16 1 1.26	2.1110	24 21 8.6	7.864	3	17 45 39.21	2.9311	28 17 17.1	1.791
4	16 3 8.02	2.1143	24 28 57.1	7.751	4	17 47 53.11	2.9323	28 19 0.5	1.655
5	16 5 14.98	2.1177	24 36 38.7	7.636	5	17 50 7.08	2.9334	28 20 35.7	1.519
6	16 7 22.14	2.1210	24 44 13.4	7.521	6	17 52 21.12	2.9345	28 22 2.8	1.383
7	16 9 29.50	2.1243	24 51 41.2	7.406	7	17 54 35.22	2.9354	28 23 21.7	1.246
8	16 11 37.06	2.1276	24 59 2.1	7.290	8	17 56 49.37	2.9363	28 24 32.4	1.109
9	16 13 44.82	2.1309	25 6 16.0	7.173	9	17 59 3.57	2.9371	28 25 34.8	0.973
10	16 15 52.77	2.1341	25 13 22.8	7.054	10	18 1 17.82	2.9379	28 26 29.0	0.835
11	16 18 0.91	2.1374	25 20 22.5	6.936	11	18 3 32.12	2.9387	28 27 15.0	0.698
12	16 20 9.25	2.1406	25 27 15.1	6.817	12	18 5 46.46	2.9393	28 27 52.7	0.560
13	16 22 17.78	2.1437	25 34 0.6	6.698	13	18 8 0.83	2.9398	28 28 22.2	0.423
14	16 24 26.49	2.1467	25 40 38.9	6.578	14	18 10 15.23	2.9403	28 28 43.4	0.285
15	16 26 35.39	2.1498	25 47 9.9	6.457	15	18 12 29.66	2.9407	28 28 56.4	0.148
16	16 28 44.47	2.1529	25 53 33.7	6.336	16	18 14 44.11	2.9410	28 29 1.1	- 0.010
17	16 30 53.74	2.1561	25 59 50.2	6.215	17	18 16 58.58	2.9419	28 28 57.6	+ 0.128
18	16 33 3.20	2.1591	26 5 59.5	6.093	18	18 19 13.06	2.9414	28 28 45.8	0.266
19	16 35 12.83	2.1620	26 12 1.4	5.969	19	18 21 27.55	2.9416	28 28 25.7	0.404
20	16 37 22.64	2.1649	26 17 55.8	5.845	20	18 23 42.05	2.9417	28 27 57.3	0.542
21	16 39 32.62	2.1677	26 23 42.8	5.721	21	18 25 56.55	2.9416	28 27 20.7	0.679
22	16 41 42.78	2.1706	26 29 22.4	5.597	22	18 28 11.04	2.9415	28 26 35.8	0.817
23	16 43 53.10	2.1734	S. 26° 34' 54.5"	5.472	23	18 30 25.53	2.9414	S. 28° 25' 42.6"	0.956
SATURDAY 14.					MONDAY 16.				
0	16 46 3.59	2.1762	S. 26° 40' 19.0"	5.346	0	18 32 40.01	2.9419	S. 28° 24' 41.1"	1.093
1	16 48 14.25	2.1790	26 45 36.0	5.220	1	18 34 54.47	2.9409	28 23 31.4	1.231
2	16 50 25.07	2.1817	26 50 45.4	5.093	2	18 37 8.91	2.9405	28 22 13.4	1.369
3	16 52 36.05	2.1843	26 55 47.2	4.966	3	18 39 23.33	2.9401	28 20 47.1	1.507
4	16 54 47.18	2.1868	27 0 41.3	4.838	4	18 41 37.72	2.9395	28 19 12.6	1.644
5	16 56 58.47	2.1894	27 5 27.7	4.710	5	18 43 52.07	2.9389	28 17 29.8	1.789
6	16 59 9.91	2.1919	27 10 6.5	4.582	6	18 46 6.39	2.9383	28 15 38.7	1.930
7	17 1 21.50	2.1943	27 14 37.5	4.452	7	18 48 20.67	2.9376	28 13 39.4	2.067
8	17 3 33.23	2.1967	27 19 0.7	4.323	8	18 50 34.90	2.9368	28 11 31.9	2.193
9	17 5 45.10	2.1990	27 23 16.2	4.193	9	18 52 49.08	2.9359	28 9 16.2	2.330
10	17 7 57.11	2.2013	27 27 23.9	4.063	10	18 55 3.21	2.9351	28 6 52.3	2.467
11	17 10 9.26	2.2036	27 31 23.7	3.932	11	18 57 17.29	2.9342	28 4 20.2	2.604
12	17 12 21.54	2.2057	27 35 15.7	3.801	12	18 59 31.31	2.9331	28 1 39.8	2.741
13	17 14 33.95	2.2078	27 38 59.8	3.669	13	19 1 45.26	2.9319	27 58 51.3	2.877
14	17 16 46.48	2.2099	27 42 36.0	3.537	14	19 3 59.14	2.9308	27 55 54.6	3.013
15	17 18 59.14	2.2120	27 46 4.2	3.404	15	19 6 12.96	2.9296	27 52 49.7	3.149
16	17 21 11.92	2.2139	27 49 24.5	3.272	16	19 8 26.70	2.9283	27 49 36.7	3.284
17	17 23 24.81	2.2158	27 52 36.8	3.138	17	19 10 40.36	2.9270	27 46 15.6	3.420
18	17 25 37.81	2.2176	27 55 41.1	3.005	18	19 12 53.94	2.9256	27 42 46.3	3.556
19	17 27 50.92	2.2193	27 58 37.4	2.872	19	19 15 7.43	2.9241	27 39 8.9	3.691
20	17 30 4.13	2.2210	28 1 25.7	2.738	20	19 17 20.83	2.9227	27 35 23.4	3.825
21	17 32 17.44	2.2227	28 4 5.9	2.605	21	19 19 34.15	2.9219	27 31 29.9	3.959
22	17 34 30.85	2.2243	28 6 38.0	2.468	22	19 21 47.37	2.9216	27 27 26.3	4.093
23	17 36 44.35	2.2258	28 9 2.0	2.333	23	19 24 0.49	2.92178	27 23 18.7	4.227
24	17 38 57.94	2.2273	S. 28° 11' 18.0"	2.199	24	19 26 13.51	2.92161	S. 27° 19' 1.1"	4.360

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.	Hour.	Right Ascension.	Diff for 1 Minute.	Declination.	Diff for 1 Minute.
TUESDAY 17.					THURSDAY 19.				
0	19 26 13.51	2.2161	S. 27° 19' 1.1	4.300	0	21 9 55.50	2.0079	S. 21° 23' 58.1	10.393
1	19 28 26.42	2.2143	27 14 35.5	4.403	1	21 12 1.25	2.0046	21 13 40.8	10.348
2	19 30 39.22	2.2124	27 10 1.9	4.607	2	21 14 6.85	2.0030	21 3 17.1	10.449
3	19 32 51.91	2.2106	27 5 20.3	4.759	3	21 16 12.29	2.0003	20 52 46.9	10.556
4	19 35 4.49	2.2087	27 0 30.8	4.891	4	21 18 17.57	2.0067	20 42 10.3	10.602
5	19 37 16.96	2.2068	26 55 33.4	5.093	5	21 20 22.70	2.0042	20 31 27.4	10.706
6	19 39 29.31	2.2048	26 50 28.0	5.155	6	21 22 27.67	2.0016	20 20 38.1	10.874
7	19 41 41.53	2.2027	26 45 14.8	5.285	7	21 24 32.49	2.0790	20 9 42.5	10.977
8	19 43 53.63	2.2006	26 39 53.8	5.416	8	21 26 37.15	2.0764	19 58 40.8	11.009
9	19 46 5.60	2.1984	26 34 24.9	5.547	9	21 28 41.66	2.0739	19 47 32.9	11.103
10	19 48 17.44	2.1963	26 28 48.2	5.677	10	21 30 46.02	2.0715	19 36 18.8	11.206
11	19 50 29.15	2.1941	26 23 3.7	5.806	11	21 32 50.24	2.0691	19 24 58.6	11.307
12	19 52 40.73	2.1918	26 17 11.5	5.935	12	21 34 54.31	2.0667	19 13 32.4	11.407
13	19 54 52.17	2.1895	26 11 11.5	6.063	13	21 36 58.24	2.0642	19 2 0.1	11.507
14	19 57 3.47	2.1873	26 5 3.9	6.191	14	21 39 2.02	2.0618	18 50 21.9	11.606
15	19 59 14.63	2.1848	25 58 48.6	6.319	15	21 41 5.66	2.0595	18 38 37.8	11.704
16	20 1 25.65	2.1824	25 52 25.6	6.447	16	21 43 9.16	2.0573	18 26 47.8	11.803
17	20 3 36.52	2.1800	25 45 55.0	6.573	17	21 45 12.52	2.0549	18 14 51.9	11.901
18	20 5 47.25	2.1776	25 39 16.8	6.699	18	21 47 15.75	2.0527	18 2 50.1	12.077
19	20 7 57.83	2.1751	25 32 31.1	6.825	19	21 49 18.85	2.0505	17 50 42.6	12.176
20	20 10 8.26	2.1725	25 25 37.8	6.951	20	21 51 21.81	2.0483	17 38 29.5	12.266
21	20 12 18.53	2.1699	25 18 37.0	7.076	21	21 53 24.64	2.0460	17 26 10.7	12.360
22	20 14 28.65	2.1674	25 11 28.7	7.200	22	21 55 27.35	2.0438	17 13 46.3	12.453
23	20 16 38.62	2.1649	S. 25° 4' 13.0	7.323	23	21 57 29.94	2.0416	S. 17° 1' 16.4	12.545
WEDNESDAY 18.					FRIDAY 20.				
0	20 18 48.44	2.1623	S. 24° 56' 49.9	7.447	0	21 59 32.41	2.0400	S. 16° 48' 40.9	12.637
1	20 20 58.10	2.1597	24 49 19.4	7.570	1	22 1 34.76	2.0380	16 35 59.9	12.730
2	20 23 7.60	2.1570	24 41 41.5	7.692	2	22 3 36.99	2.0360	16 23 13.5	12.817
3	20 25 16.94	2.1543	24 33 56.3	7.814	3	22 5 39.11	2.0343	16 10 21.8	12.906
4	20 27 26.12	2.1517	24 26 3.8	7.935	4	22 7 41.11	2.0326	15 57 24.8	12.995
5	20 29 35.14	2.1490	24 18 4.1	8.055	5	22 9 43.01	2.0307	15 44 22.4	13.083
6	20 31 44.00	2.1463	24 9 57.2	8.175	6	22 11 44.80	2.0290	15 31 14.8	13.169
7	20 33 52.70	2.1436	24 1 43.1	8.295	7	22 13 46.49	2.0273	15 18 2.1	13.255
8	20 36 1.24	2.1409	23 53 21.8	8.414	8	22 15 48.08	2.0257	15 4 44.2	13.341
9	20 38 9.61	2.1382	23 44 53.4	8.532	9	22 17 49.57	2.0240	14 51 21.2	13.426
10	20 40 17.82	2.1354	23 36 17.9	8.650	10	22 19 50.96	2.0225	14 37 53.2	13.509
11	20 42 25.86	2.1327	23 27 35.4	8.767	11	22 21 52.27	2.0211	14 24 20.2	13.591
12	20 44 33.74	2.1300	23 18 45.9	8.883	12	22 23 53.49	2.0197	14 10 42.3	13.673
13	20 46 41.46	2.1273	23 9 49.4	8.999	13	22 25 54.63	2.0182	13 56 59.5	13.753
14	20 48 49.01	2.1245	23 0 46.0	9.115	14	22 27 55.68	2.0168	13 43 11.9	13.833
15	20 50 56.40	2.1217	22 51 35.6	9.230	15	22 29 56.65	2.0154	13 29 19.6	13.912
16	20 53 3.62	2.1190	22 42 18.4	9.344	16	22 31 57.55	2.0144	13 15 22.5	13.991
17	20 55 10.68	2.1162	22 32 54.4	9.458	17	22 33 58.38	2.0130	13 1 20.7	14.068
18	20 57 17.57	2.1135	22 23 23.5	9.571	18	22 35 59.14	2.0118	12 47 14.3	14.144
19	20 59 24.30	2.1108	22 13 45.9	9.683	19	22 37 59.84	2.0119	12 33 3.4	14.220
20	21 1 30.87	2.1081	22 4 1.6	9.794	20	22 40 0.48	2.0101	12 18 47.9	14.295
21	21 3 37.27	2.1053	21 54 10.6	9.905	21	22 42 1.05	2.0091	12 4 28.0	14.369
22	21 5 43.51	2.1026	21 44 13.0	10.015	22	22 44 1.57	2.0083	11 50 3.7	14.441
23	21 7 49.59	2.0999	21 34 8.8	10.124	23	22 46 2.04	2.0075	11 35 35.1	14.513
24	21 9 55.50	2.0979	S. 21° 23' 58.1	10.233	24	22 48 2.47	2.0067	S. 11° 21' 2.2	14.584

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 21.					MONDAY 23.				
0	22 48 2.47	2.0067	S. 11° 21' 22"	14.584	0	0 24 50.61	2.0569	N. 1° 20' 45.0"	16.703
1	22 50 2.85	2.0061	11 6 25.0	14.654	1	0 26 54.07	2.0599	1 37 27.6	16.717
2	22 52 3.20	2.0055	10 51 43.7	14.723	2	0 28 57.71	2.0629	1 54 11.0	16.738
3	22 54 3.51	2.0049	10 36 58.3	14.791	3	0 31 1.53	2.0653	2 10 55.0	16.738
4	22 56 3.79	2.0044	10 22 8.8	14.858	4	0 33 5.55	2.0686	2 27 39.5	16.746
5	22 58 4.04	2.0040	10 7 15.3	14.924	5	0 35 9.76	2.0719	2 44 24.5	16.752
6	23 0 4.27	2.0037	9 52 17.9	14.989	6	0 37 14.18	2.0754	3 1 9.8	16.758
7	23 2 4.48	2.0034	9 37 16.6	15.053	7	0 39 18.81	2.0789	3 17 55.4	16.762
8	23 4 4.67	2.0031	9 22 11.5	15.117	8	0 41 23.65	2.0826	3 34 41.2	16.763
9	23 6 4.85	2.0029	9 7 2.6	15.179	9	0 43 28.71	2.0862	3 51 27.0	16.763
10	23 8 5.02	2.0028	8 51 50.0	15.240	10	0 45 33.99	2.0899	4 8 12.8	16.769
11	23 10 5.20	2.0030	8 36 33.8	15.300	11	0 47 39.50	2.0937	4 24 58.5	16.760
12	23 12 5.38	2.0031	8 21 14.0	15.359	12	0 49 45.24	2.0977	4 41 44.0	16.756
13	23 14 5.57	2.0032	8 5 50.7	15.417	13	0 51 51.22	2.1017	4 58 29.2	16.750
14	23 16 5.76	2.0033	7 50 24.0	15.474	14	0 53 57.45	2.1058	5 15 14.0	16.742
15	23 18 5.96	2.0035	7 34 53.8	15.531	15	0 56 3.92	2.1100	5 31 58.2	16.739
16	23 20 6.18	2.0039	7 19 20.3	15.585	16	0 58 10.65	2.1143	5 48 41.8	16.731
17	23 22 6.43	2.0043	7 3 43.6	15.638	17	1 0 17.64	2.1187	6 5 24.7	16.708
18	23 24 6.70	2.0047	6 48 3.7	15.691	18	1 2 24.89	2.1231	6 22 6.8	16.694
19	23 26 7.00	2.0053	6 32 20.7	15.749	19	1 4 32.41	2.1277	6 38 48.0	16.677
20	23 28 7.34	2.0060	6 16 34.6	15.793	20	1 6 40.21	2.1323	6 55 28.1	16.659
21	23 30 7.72	2.0068	6 0 45.5	15.849	21	1 8 48.28	2.1369	7 12 7.1	16.639
22	23 32 8.15	2.0076	5 44 53.5	15.890	22	1 10 56.64	2.1417	7 28 44.8	16.618
23	23 34 8.63	2.0084	S. 5 28 58.7	15.938	23	1 13 5.29	2.1466	N. 7 45 21.2	16.595
SUNDAY 22.					TUESDAY 24.				
0	23 36 9.16	2.0093	S. 5 13 1.0	15.984	0	1 15 14.23	2.1516	N. 8 1 56.2	16.570
1	23 38 9.75	2.0104	4 57 0.6	16.038	1	1 17 23.47	2.1566	8 18 29.6	16.543
2	23 40 10.41	2.0115	4 40 57.6	16.072	2	1 19 33.02	2.1617	8 35 1.3	16.513
3	23 42 11.13	2.0126	4 24 52.0	16.114	3	1 21 42.87	2.1669	8 51 31.2	16.489
4	23 44 11.92	2.0138	4 8 43.9	16.155	4	1 23 53.04	2.1722	9 7 59.2	16.450
5	23 46 12.79	2.0152	3 52 33.4	16.194	5	1 26 3.53	2.1775	9 24 25.2	16.416
6	23 48 13.75	2.0167	3 36 20.6	16.232	6	1 28 14.34	2.1829	9 40 49.1	16.379
7	23 50 14.79	2.0182	3 20 5.5	16.270	7	1 30 25.48	2.1885	9 57 10.7	16.341
8	23 52 15.93	2.0197	3 3 48.2	16.307	8	1 32 36.96	2.1941	10 13 30.0	16.301
9	23 54 17.16	2.0213	2 47 28.7	16.342	9	1 34 48.77	2.1998	10 29 46.8	16.258
10	23 56 18.49	2.0231	2 31 7.2	16.375	10	1 37 0.93	2.2055	10 46 1.0	16.214
11	23 58 19.93	2.0249	2 14 43.7	16.407	11	1 39 13.43	2.2113	11 2 12.5	16.167
12	0 0 21.48	2.0267	1 58 18.3	16.438	12	1 41 26.28	2.2172	11 18 21.1	16.119
13	0 2 23.14	2.0287	1 41 51.1	16.468	13	1 43 39.49	2.2232	11 34 26.8	16.069
14	0 4 24.93	2.0309	1 25 22.2	16.496	14	1 45 53.06	2.2292	11 50 29.4	16.018
15	0 6 26.85	2.0331	1 8 51.6	16.523	15	1 48 6.99	2.2353	12 6 28.9	15.964
16	0 8 28.90	2.0353	0 52 19.4	16.549	16	1 50 21.29	2.2415	12 22 25.1	15.907
17	0 10 31.09	2.0376	0 35 45.7	16.573	17	1 52 35.97	2.2477	12 38 17.8	15.849
18	0 12 33.41	2.0399	0 19 10.6	16.597	18	1 54 51.02	2.2540	12 54 7.0	15.789
19	0 14 35.88	2.0424	S. 0 2 34.1	16.615	19	1 57 6.45	2.2604	13 9 52.5	15.727
20	0 16 38.50	2.0450	N. 0 14 3.6	16.638	20	1 59 22.27	2.2669	13 25 34.2	15.663
21	0 18 41.28	2.0477	0 30 42.4	16.656	21	2 1 38.48	2.2734	13 41 12.0	15.596
22	0 20 44.22	2.0504	0 47 22.3	16.673	22	2 3 55.08	2.2799	13 56 45.7	15.527
23	0 22 47.33	2.0532	1 4 3.2	16.689	23	2 6 12.07	2.2865	14 12 15.3	15.457
24	0 24 50.61	2.0560	N. 1 20 45.0	16.703	24	2 8 29.46	2.2933	N. 14 27 40.6	15.384

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 25.					FRIDAY 27.				
0	h m s	s	N. 14° 27' 40.6"	15.384	0	h m s	s	N. 24° 41' 22.7"	8.273
1	2 8 29.46	2.9933	14 43 1.4	15.309	1	4 9 28.48	2.6411	24 50 39.9	8.199
2	2 13 5.47	2.9909	14 58 17.7	15.239	2	4 12 7.13	2.6471	24 59 46.6	8.082
3	2 15 24.08	2.9137	15 13 29.3	15.153	3	4 14 46.13	2.6530	25 8 42.6	8.044
4	2 17 43.11	2.9906	15 28 36.1	15.073	4	4 17 25.49	2.6589	25 17 27.9	8.004
5	2 20' 2.55	2.9975	15 43 37.9	14.988	5	4 20 5.20	2.6647	25 26 2.3	8.463
6	2 22 22.41	2.9345	15 58 34.7	14.903	6	4 22 45.25	2.6703	25 34 25.8	8.390
7	2 24 42.69	2.9416	16 13 26.3	14.815	7	4 25 25.64	2.6758	25 42 38.3	8.116
8	2 27 3.40	2.9487	16 28 12.5	14.725	8	4 28 6.35	2.6819	25 50 39.7	7.989
9	2 29 24.54	2.9558	16 42 53.3	14.633	9	4 30 47.38	2.6884	25 58 29.8	7.741
10	2 31 46.10	2.9630	16 57 28.5	14.539	10	4 33 28.72	2.6915	26 6 8.6	7.559
11	2 34 8.10	2.9709	17 11 58.0	14.443	11	4 36 10.36	2.6984	26 13 36.1	7.383
12	2 36 30.53	2.9775	17 26 21.7	14.345	12	4 38 52.29	2.7019	26 20 52.2	7.172
13	2 38 53.40	2.9847	17 40 39.4	14.243	13	4 41 34.51	2.7069	26 27 56.7	6.973
14	2 41 16.70	2.9909	17 54 50.9	14.140	14	4 44 17.00	2.7104	26 34 49.6	6.784
15	2 43 40.44	2.9983	18 8 56.2	14.036	15	4 46 59.76	2.7148	26 41 30.8	6.598
16	2 46 4.62	2.9967	18 22 55.2	13.936	16	4 49 42.78	2.7190	26 48 0.2	6.399
17	2 48 29.24	2.9141	18 36 47.6	13.819	17	4 52 26.04	2.7230	26 54 17.8	6.194
18	2 50 54.31	2.9915	18 50 33.4	13.707	18	4 55 9.54	2.7269	27 0 23.5	5.985
19	2 53 19.82	2.9989	19 4 12.4	13.593	19	4 57 53.27	2.7306	27 6 17.2	5.780
20	2 55 45.78	2.9363	19 17 44.5	13.477	20	5 0 37.21	2.7341	27 11 58.9	5.585
21	2 58 12.18	2.9437	19 31 9.6	13.360	21	5 3 21.36	2.7374	27 17 28.6	5.394
22	3 0 39.03	2.9519	19 44 27.6	13.238	22	5 6 5.70	2.7406	27 22 46.2	5.191
23	3 3 6.33	2.9587	N. 19 57 38.2	13.115	23	5 8 50.23	2.7436	N. 27 27 51.5	4.987
THURSDAY 26.					SATURDAY 28.				
0	3 5 34.07	2.9661	N. 20 10 41.4	12.990	0	5 11 34.93	2.7463	N. 27 32 44.6	4.788
1	3 8 2.26	2.9735	20 23 37.0	12.863	1	5 14 19.79	2.7490	27 37 25.4	4.577
2	3 10 30.89	2.9809	20 36 25.0	12.735	2	5 17 4.81	2.7515	27 41 53.9	4.371
3	3 12 59.97	2.9883	20 49 5.2	12.603	3	5 19 49.97	2.7537	27 46 10.0	4.165
4	3 15 29.49	2.9957	21 1 37.4	12.469	4	5 22 35.25	2.7557	27 50 13.7	3.958
5	3 17 59.46	2.9939	21 14 1.5	12.334	5	5 25 20.65	2.7575	27 54 4.9	3.750
6	3 20 29.88	2.9106	21 26 17.5	12.197	6	5 28 6.15	2.7599	27 57 43.7	3.540
7	3 23 0.74	2.9179	21 38 25.1	12.057	7	5 30 51.75	2.7608	28 1 10.0	3.330
8	3 25 32.03	2.9259	21 50 24.3	11.915	8	5 33 37.42	2.7618	28 4 23.7	3.114
9	3 28 3.76	2.9334	22 2 14.9	11.773	9	5 36 23.16	2.7638	28 7 24.9	2.915
10	3 30 35.92	2.9397	22 13 56.9	11.626	10	5 39 8.96	2.7637	28 10 13.5	2.708
11	3 33 8.52	2.9469	22 25 30.0	11.477	11	5 41 54.80	2.7643	28 12 49.6	2.497
12	3 35 41.55	2.9541	22 36 54.1	11.326	12	5 44 40.67	2.7647	28 15 13.1	2.285
13	3 38 15.01	2.9619	22 48 9.1	11.174	13	5 47 26.56	2.7649	28 17 24.0	2.077
14	3 40 48.89	2.9692	22 59 15.0	11.021	14	5 50 12.46	2.7650	28 19 22.3	1.868
15	3 43 23.19	2.9759	23 10 11.6	10.866	15	5 52 58.36	2.7648	28 21 7.9	1.653
16	3 45 57.91	2.9831	23 20 58.8	10.707	16	5 55 44.24	2.7643	28 22 40.9	1.445
17	3 48 33.04	2.9890	23 31 36.4	10.546	17	5 58 30.08	2.7637	28 24 1.3	1.235
18	3 51 8.59	2.9959	23 42 4.3	10.383	18	6 1 15.88	2.7639	28 25 9.1	1.026
19	3 53 44.55	2.9996	23 52 22.4	10.220	19	6 4 1.63	2.7619	28 26 4.3	0.815
20	3 56 20.90	2.9991	24 2 30.7	10.055	20	3 6 47.31	2.7607	28 26 46.9	0.606
21	3 58 57.64	2.9156	24 12 29.0	9.887	21	6 9 32.91	2.7599	28 27 17.0	0.397
22	4 1 34.77	2.9231	24 22 17.2	9.717	22	6 12 18.41	2.7575	28 27 34.5	+ 0.188
23	4 4 12.29	2.9296	24 31 55.1	9.546	23	6 15 3.81	2.7557	28 27 39.5	- 0.028
24	4 6 50.20	2.9349	N. 24 41 22.7	9.373	24	6 17 49.10	2.7537	N. 28 27 32.0	0.989

GREENWICH MEAN TIME

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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SUNDAY 29.

h	m	s	a	N. 28° 27' 32.0"	0.989
0	6 17	49.10	2.7537	28 27 12.0	0.437
1	6 20	34.26	2.7514	28 26 39.6	0.643
2	6 23	19.27	2.7489	28 25 54.8	0.849
3	6 26	4.13	2.7469	28 24 57.7	1.055
4	6 28	48.82	2.7434	28 23 48.2	1.261
5	6 31	33.34	2.7405	28 22 26.4	1.465
6	6 34	17.68	2.7373	28 20 52.4	1.669
7	6 37	1.82	2.7338	28 19 6.2	1.871
8	6 39	45.74	2.7309	28 17 7.9	2.073
9	6 42	29.44	2.7284	28 14 57.5	2.274
10	6 45	12.91	2.7294	28 12 35.0	2.475
11	6 47	56.13	2.7189	28 10 0.5	2.674
12	6 50	39.10	2.7139	28 7 14.1	2.872
13	6 53	21.80	2.7094	28 4 15.9	3.068
14	6 56	4.23	2.7048	28 1 5.9	3.264
15	6 58	46.38	2.7000	27 57 44.2	3.459
16	7 1	28.23	2.6949	27 54 10.8	3.653
17	7 4	9.77	2.6898	27 50 25.9	3.844
18	7 6	51.00	2.6845	27 46 29.5	4.036
19	7 9	31.91	2.6790	27 42 21.6	4.226
20	7 12	12.48	2.6733	27 38 2.4	4.414
21	7 14	52.71	2.6676	27 33 31.9	4.601
22	7 17	32.59	2.6618	27 28 50.3	4.786
23	7 20	12.12	2.6558		

MONDAY 30.

h	m	s	a	N. 27° 23' 57.6"	4.971
0	7 22	51.28	2.6496	27 18 53.8	5.154
1	7 25	30.07	2.6439	27 13 39.1	5.335
2	7 28	8.47	2.6387	27 8 13.6	5.515
3	7 30	46.48	2.6309	27 2 37.3	5.693
4	7 33	24.10	2.6236	26 56 50.4	5.869
5	7 36	1.31	2.6168	26 50 53.0	6.044
6	7 38	38.11	2.6098	26 44 45.1	6.218
7	7 41	14.49	2.6029	26 38 26.8	6.391
8	7 43	50.46	2.5959	26 31 58.2	6.562
9	7 46	26.00	2.5887	26 25 19.4	6.730
10	7 49	1.11	2.5814	26 18 30.6	6.897
11	7 51	35.77	2.5740	26 11 31.8	7.062
12	7 54	9.99	2.5666	25 57 4.7	7.227
13	7 56	43.76	2.5591	25 49 36.6	7.391
14	7 59	17.08	2.5515	25 41 59.0	7.547
15	8 1	49.94	2.5438	25 34 11.9	7.706
16	8 4	22.34	2.5361	25 26 15.4	7.863
17	8 6	54.27	2.5283	25 18 9.7	8.018
18	8 9	25.74	2.5205	25 9 54.9	8.171
19	8 11	56.73	2.5126	25 1 31.0	8.323
20	8 14	27.25	2.5047	24 52 58.2	8.473
21	8 16	57.29	2.4967	24 44 16.6	8.620
22	8 19	26.85	2.4887	24 35 26.3	8.766
23	8 21	55.93	2.4806		8.910
24	8 24	24.52	2.4724		

TUESDAY 31.

h	m	s	a	N. 24° 35' 26.3"	8.910
0	8 24	24.52	2.4724	24 26 27.4	9.059
1	8 26	52.62	2.4643	24 17 20.0	9.199
2	8 29	20.24	2.4569	24 8 4.3	9.331
3	8 31	47.37	2.4489	23 58 40.3	9.468
4	8 34	14.00	2.4398	23 49 8.1	9.604
5	8 36	40.14	2.4316	23 39 27.8	9.738
6	8 39	5.79	2.4233	23 29 39.6	9.869
7	8 41	30.94	2.4151	23 19 43.5	9.998
8	8 43	55.60	2.4069	23 9 39.8	10.125
9	8 46	19.77	2.3987	22 59 28.5	10.252
10	8 48	43.44	2.3904	22 49 9.6	10.377
11	8 51	6.62	2.3822	22 38 43.3	10.499
12	8 53	29.30	2.3739	22 28 9.7	10.619
13	8 55	51.49	2.3657	22 17 29.0	10.738
14	8 58	13.19	2.3575	22 6 41.2	10.855
15	9 0	34.39	2.3493	21 55 46.4	10.970
16	9 2	55.10	2.3412	21 44 44.8	11.083
17	9 5	15.33	2.3339	21 33 36.4	11.196
18	9 7	35.08	2.3261	21 22 21.4	11.304
19	9 9	54.34	2.3189	21 10 59.9	11.413
20	9 12	13.11	2.3088	20 59 31.9	11.520
21	9 14	31.40	2.3008	20 47 57.5	11.624
22	9 16	49.21	2.2928	20 36 17.0	11.726
23	9 19	6.54	2.2848		

WEDNESDAY, NOVEMBER 1.

h	m	s	a	N. 20° 24' 30.4"	11.827
0	9 21	23.39	2.2769		

PHASES OF THE MOON.

	d	h	m
☾ Last Quarter . . . Oct.	2	3	18.9
● New Moon	9	8	27.1
☾ First Quarter	17	11	19.8
○ Full Moon	24	19	27.9
☾ Last Quarter	31	10	42.0

	d	h
☾ Apogee Oct.	14	22.0
☾ Perigee	26	18.6

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Dist.	III ^h .	P. L. of Dist.	VI ^h .	P. L. of Dist.	IX ^h .	P. L. of Dist.
1	α Pegasi W.	89° 47' 5"	9500	91° 26' 16"	9504	93° 5' 19"	9500	94° 44' 14"	9507
	α Arietis W.	47 8 3	9353	48 52 46	9353	50 37 28	9354	52 22 9	9355
	JUPITER W.	22 57 15	9343	24 42 12	9336	26 27 19	9331	28 12 33	9326
	Regulus E.	64 56 40	9278	63 10 8	9263	61 23 43	9268	59 37 26	9264
	Sun E.	105 0 48	9577	103 21 22	9563	101 42 3	9566	100 2 51	9563
2	α Arietis W.	61 4 50	9300	62 49 9	9373	64 33 23	9377	66 17 31	9381
	JUPITER W.	36 59 1	9333	38 44 12	9335	40 29 20	9339	42 14 23	9342
	Aldebaran W.	31 12 12	9325	32 52 51	9312	34 33 48	9301	36 15 0	9288
	Regulus E.	50 48 6	9304	49 2 41	9330	47 17 25	9337	45 32 19	9344
	Sun E.	91 48 46	9323	90 10 21	9306	88 32 4	9335	86 53 56	9348
3	α Arietis W.	74 56 29	9407	76 30 54	9413	78 23 11	9418	80 6 20	9424
	JUPITER W.	50 58 11	9365	52 42 36	9370	54 26 54	9375	56 11 4	9381
	Aldebaran W.	44 43 14	9474	46 25 4	9473	48 6 55	9474	49 48 45	9475
	Regulus E.	36 49 27	9389	35 5 26	9391	33 21 38	9400	31 38 3	9410
	Sun E.	78 45 26	9674	77 8 11	9681	75 31 5	9687	73 54 8	9694
4	α Arietis W.	88 39 56	9455	90 22 12	9462	92 4 18	9470	93 46 14	9477
	JUPITER W.	64 49 53	9410	66 33 13	9416	68 16 25	9422	69 59 28	9429
	Aldebaran W.	58 17 14	9489	59 58 43	9493	61 40 6	9497	63 21 23	9502
	Sun E.	65 51 44	9730	64 15 44	9737	62 39 53	9744	61 4 12	9728
5	JUPITER W.	78 32 24	9469	80 14 30	9469	81 56 27	9476	83 38 14	9483
	Aldebaran W.	71 46 3	9539	73 26 36	9535	75 7 0	9542	76 47 15	9548
	Pollux W.	27 39 21	9470	29 21 16	9477	31 3 2	9484	32 44 38	9489
	Sun E.	53 8 17	9790	51 33 36	9796	49 59 5	9806	48 24 45	9814
6	JUPITER W.	92 4 35	9590	93 45 20	9598	95 25 54	9535	97 6 18	9544
	Aldebaran W.	85 6 12	9583	86 45 30	9591	88 24 37	9599	90 3 33	9607
	Pollux W.	41 10 11	9597	42 50 46	9535	44 31 11	9543	46 11 25	9551
	Sun E.	40 35 40	9655	39 2 23	9663	37 29 17	9673	35 56 22	9681
7	Aldebaran W.	98 15 27	9650	99 53 14	9659	101 30 49	9669	103 8 11	9678
	Pollux W.	54 29 50	9591	56 8 57	9599	57 47 53	9608	59 26 37	9617
	Sun E.	28 14 38	9925	26 42 51	9935	25 11 16	9944	23 39 53	9954
10	Sun W.	7 31 46	3171	8 58 30	3169	10 25 1	3193	11 51 19	3203
	Antares E.	43 29 36	9815	41 55 28	9825	40 21 32	9835	38 47 49	9844
	α Aquilæ E.	94 54 34	3660	93 37 4	3667	92 19 42	3675	91 2 28	3684
11	Sun W.	18 59 47	3254	20 24 52	3264	21 49 46	3274	23 14 28	3284
	Antares E.	31 2 22	9899	29 29 53	9909	27 57 37	9919	26 25 33	9929
	α Aquilæ E.	84 39 2	3743	83 23 0	3758	82 7 14	3773	80 51 44	3790
12	Sun W.	30 15 7	3339	31 38 42	3340	33 2 7	3349	34 25 22	3356
	α Aquilæ E.	74 38 53	3888	73 25 21	3919	72 12 13	3935	70 59 29	3961
	Fomalhaut E.	100 58 32	3168	99 31 45	3175	98 5 6	3181	96 38 34	3186
13	Sun W.	41 19 18	3395	42 41 40	3403	44 3 54	3408	45 26 0	3415
	α Aquilæ E.	65 2 35	4109	63 52 42	4144	62 43 23	4181	61 34 39	4219
	Fomalhaut E.	89 27 52	3920	88 2 7	3927	86 36 30	3933	85 11 0	3940

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	α Pegasi W.	96° 23' 0"	2614	98° 1' 36"	2622	99° 40' 1"	2631	101° 18' 14"	2641
	α Arietis W.	54 6 48	2337	55 51 24	2359	57 35 57	2369	59 20 26	2366
	JUPITER W.	29 57 51	2328	31 43 10	2328	33 28 29	2329	35 13 46	2331
	Regulus E.	57 51 17	2299	56 5 16	2305	54 19 24	2311	52 33 41	2317
	SUN E.	98 23 47	2599	96 44 50	2604	95 6 1	2610	93 27 19	2616
2	α Arietis W.	68 1 33	2326	69 45 28	2321	71 29 16	2326	73 12 56	2401
	JUPITER W.	43 59 21	2346	45 44 13	2350	47 28 59	2355	49 13 38	2359
	Aldebaran W.	37 56 25	2485	39 37 59	2480	41 19 40	2477	43 1 25	2475
	Regulus E.	43 47 23	2351	42 2 38	2358	40 18 3	2366	38 33 39	2374
	SUN E.	85 15 56	2647	83 38 5	2654	82 0 23	2660	80 22 50	2667
3	α Arietis W.	81 49 21	2430	83 32 13	2436	85 14 56	2442	86 57 31	2449
	JUPITER W.	57 55 6	2387	59 39 0	2392	61 22 46	2398	63 6 24	2404
	Aldebaran W.	51 30 33	2477	53 12 19	2480	54 54 1	2489	56 35 40	2485
	Regulus E.	29 54 42	2420	28 11 36	2431	26 28 46	2443	24 46 13	2455
	SUN E.	72 17 20	2701	70 40 42	2708	69 4 13	2716	67 27 54	2722
4	α Arietis W.	95 28 0	2484	97 9 36	2491	98 51 2	2499	100 32 17	2506
	JUPITER W.	71 42 22	2435	73 25 7	2442	75 7 42	2448	76 50 8	2455
	Aldebaran W.	65 2 33	2507	66 43 37	2512	68 24 33	2517	70 5 22	2523
	SUN E.	59 28 41	2760	57 53 20	2767	56 18 9	2775	54 43 8	2782
5	JUPITER W.	85 19 51	2490	87 1 18	2496	88 42 34	2505	90 23 40	2513
	Aldebaran W.	78 27 22	2555	80 7 19	2561	81 47 7	2569	83 26 44	2576
	Pollux W.	34 26 5	2497	36 7 22	2504	37 48 29	2512	39 29 25	2520
	SUN E.	46 50 35	2691	45 16 35	2690	43 42 46	2698	42 9 8	2646
6	JUPITER W.	98 46 30	2559	100 26 31	2566	102 6 21	2568	103 46 0	2577
	Aldebaran W.	91 42 19	2615	93 20 53	2624	94 59 16	2632	96 37 27	2640
	Pollux W.	47 51 28	2559	49 31 20	2566	51 11 1	2574	52 50 31	2583
	SUN E.	34 23 39	2690	32 51 7	2698	31 18 46	2707	29 46 36	2616
7	Aldebaran W.	104 45 21	2687	106 22 18	2696	107 59 1	2707	109 35 31	2719
	Pollux E.	61 5 9	2696	62 43 29	2695	64 21 37	2643	65 59 33	2653
	SUN E.	22 8 42	2663	20 37 43	2673	19 6 57	2683	17 36 23	2692
10	SUN W.	13 17 25	2613	14 43 19	2624	16 9 0	2633	17 34 30	2644
	Antares E.	37 14 18	2654	35 41 0	2664	34 7 55	2673	32 35 2	2683
	α Aquilæ E.	89 45 24	2693	88 28 30	2705	87 11 48	2716	85 55 18	2729
11	SUN W.	24 38 58	2694	26 3 17	2693	27 27 25	2613	28 51 21	2622
	Antares E.	24 53 40	2690	23 21 59	2699	21 50 29	2647	20 19 10	2656
	α Aquilæ E.	79 36 31	2698	78 21 37	2696	77 7 2	2646	75 52 47	2656
12	SUN W.	35 48 27	2665	37 11 23	2673	38 34 10	2681	39 56 48	2688
	α Aquilæ E.	69 47 11	2687	68 35 19	2616	67 23 55	2645	66 13 0	2676
	Fomalhaut E.	95 12 10	2194	93 45 54	2200	92 19 45	2208	90 53 45	2214
13	SUN W.	46 48 0	2491	48 9 53	2496	49 31 40	2491	50 53 21	2496
	α Aquilæ E.	60 26 31	2461	59 19 2	2464	58 12 13	2461	57 6 7	2460
	Fomalhaut E.	83 45 38	2647	82 20 24	2653	80 55 17	2659	79 30 18	2665

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	III ^h .	P. L. of Diff.	VI ^h .	P. L. of Diff.	IX ^h .	P. L. of Diff.
14	SUN W.	52° 14' 57"	3440	53° 36' 28"	3444	54° 57' 55"	3447	56° 19' 18"	3451
	VENUS W.	11 4 27	3564	12 23 41	3569	13 43 0	3566	15 2 22	3565
	α Aquilæ E.	56 0 45	4469	54 56 10	4506	53 52 25	4567	52 45 32	4631
	Fomalhaut E.	78 5 26	3971	76 40 41	3977	75 16 3	3983	73 51 32	3989
	α Pegasi E.	99 26 23	3393	98 3 58	3393	96 41 34	3394	95 19 11	3396
15	SUN W.	63 5 31	3459	64 26 41	3459	65 47 51	3459	67 9 1	3459
	VENUS W.	21 39 40	3548	22 59 11	3546	24 18 44	3545	25 38 18	3544
	α Aquilæ E.	47 49 58	5031	46 53 27	5131	45 58 13	5940	45 4 21	5358
	Fomalhaut E.	66 50 44	3319	65 26 54	3325	64 3 12	3333	62 39 37	3339
	α Pegasi E.	88 27 39	3409	87 5 25	3403	85 43 12	3404	84 21 0	3405
16	SUN W.	73 55 11	3448	75 16 33	3444	76 38 0	3439	77 59 32	3435
	VENUS W.	32 16 47	3598	33 36 40	3595	34 56 37	3619	36 16 40	3515
	Antares W.	28 49 59	3069	30 18 46	3066	31 47 37	3063	33 16 33	3056
	Fomalhaut E.	55 43 32	3379	54 20 43	3380	52 58 4	3386	51 35 34	3396
	α Pegasi E.	77 30 17	3409	76 8 11	3411	74 46 7	3419	73 24 4	3413
17	SUN W.	84 48 43	3404	86 10 55	3395	87 33 17	3387	88 55 48	3378
	VENUS W.	42 58 32	3480	44 19 18	3471	45 40 14	3463	47 1 20	3454
	Antares W.	40 42 46	3029	42 12 23	3021	43 42 10	3014	45 12 6	3005
	Fomalhaut E.	44 46 6	3461	43 24 58	3478	42 4 9	3467	40 43 42	3528
	α Pegasi E.	66 34 9	3421	65 12 16	3423	63 50 25	3426	62 28 38	3429
18	α Arietis E.	107 39 40	3080	106 11 6	3071	104 42 21	3063	103 13 26	3054
	SUN W.	95 51 10	3395	97 14 52	3314	98 38 47	3301	100 2 57	3289
	VENUS W.	53 49 37	3400	55 11 54	3387	56 34 25	3374	57 57 11	3361
	Antares W.	52 44 33	2957	54 15 40	2946	55 47 0	2935	57 18 35	2923
	α Pegasi E.	55 40 49	3455	54 19 35	3464	52 58 31	3474	51 37 38	3485
19	α Arietis E.	95 45 58	3004	94 15 50	2993	92 45 28	2981	91 14 52	2969
	JUPITER E.	118 38 47	2949	117 7 22	2930	115 35 41	2918	114 3 45	2906
	SUN W.	107 7 39	3218	108 33 27	3203	109 59 33	3188	111 25 57	3171
	Antares W.	65 0 27	2957	66 33 41	2943	68 7 13	2929	69 41 3	2914
	VENUS W.	64 54 58	3288	66 19 23	3273	67 44 6	3257	69 9 8	3240
20	α Arietis E.	83 37 58	2905	82 5 45	2891	80 33 15	2877	79 0 27	2863
	JUPITER E.	106 20 4	2839	104 46 27	2825	103 12 32	2810	101 38 17	2795
	Aldebaran E.	114 3 40	2927	112 31 56	2913	110 59 52	2896	109 27 28	2880
	SUN W.	118 42 57	3086	120 11 24	3069	121 40 12	3051	123 9 22	3032
	Antares W.	77 35 14	2735	79 11 7	2719	80 47 22	2703	82 23 59	2685
21	VENUS W.	76 19 20	3153	77 46 25	3135	79 13 52	3116	80 41 42	3098
	α Arietis E.	71 11 44	2788	69 37 1	2772	68 1 57	2757	66 26 33	2740
	JUPITER E.	93 42 1	2716	92 5 42	2700	90 29 2	2683	88 51 59	2666
	Aldebaran E.	101 40 10	2796	100 5 37	2779	98 30 42	2762	96 55 24	2745
	Antares W.	90 32 51	2699	92 11 48	2681	93 51 9	2663	95 30 55	2645
22	VENUS W.	88 6 37	3069	89 36 47	2963	91 7 21	2953	92 38 20	2944
	α Aquilæ W.	49 33 9	4308	50 39 54	4310	51 48 11	4117	52 57 56	4032
	α Arietis E.	58 24 25	2665	56 46 58	2649	55 9 10	2635	53 31 2	2621
	JUPITER E.	80 40 59	2680	79 1 37	2662	77 21 50	2645	75 41 39	2627
	Aldebaran E.	88 53 10	2657	87 15 33	2640	85 37 32	2622	83 59 7	2605

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.		Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
14	SUN	W.	57° 40' 37"	3453	59° 1' 54"	3455	60° 23' 8"	3457	61° 44' 20"	3458
	VENUS	W.	16 21 46	3553	17 41 12	3551	19 0 40	3550	20 20 9	3548
	α Aquilæ	E.	51 47 34	4699	50 46 34	4774	49 46 36	4853	48 47 43	4937
	Fomalhaut	E.	72 27 9	3996	71 2 53	3301	69 38 43	3307	68 14 40	3313
	α Pegasi	E.	93 56 50	3397	92 34 30	3399	91 12 12	3400	89 49 55	3400
15	SUN	W.	68 30 11	3457	69 51 23	3456	71 12 36	3454	72 33 52	3451
	VENUS	W.	26 57 54	3541	28 17 33	3539	29 37 14	3535	30 56 59	3533
	α Aquilæ	E.	44 11 56	5487	43 21 3	5699	42 31 48	5784	41 44 17	5854
	Fomalhaut	E.	61 16 9	3344	59 52 48	3351	58 20 35	3357	57 6 29	3365
	α Pegasi	E.	82 58 49	3406	81 36 39	3408	80 14 31	3408	78 52 23	3409
16	SUN	W.	79 21 9	3430	80 42 52	3433	82 4 42	3417	83 26 39	3411
	VENUS	W.	37 36 48	3508	38 57 3	3509	40 17 25	3496	41 37 54	3488
	Antares	W.	34 45 34	3059	36 14 42	3047	37 43 56	3049	39 13 17	3035
	Fomalhaut	E.	50 13 15	3408	48 51 8	3419	47 29 13	3431	46 7 32	3445
	α Pegasi	E.	72 2 2	3414	70 40 1	3415	69 18 2	3416	67 56 4	3419
17	SUN	W.	90 18 30	3369	91 41 22	3358	93 4 26	3348	94 27 42	3338
	VENUS	W.	48 22 36	3444	49 44 3	3433	51 5 42	3423	52 27 33	3411
	Antares	W.	46 42 13	2997	48 12 30	2987	49 42 59	2977	51 13 40	2968
	Fomalhaut	E.	39 23 40	3545	38 4 6	3575	36 45 4	3609	35 26 30	3646
	α Pegasi	E.	61 6 54	3433	59 45 15	3437	58 23 40	3449	57 2 11	3448
18	α Arietis	E.	101 44 20	3045	100 15 3	3035	98 45 34	3098	97 15 53	3014
	SUN	W.	101 27 21	3976	102 52 1	3969	104 16 57	3948	105 42 9	3923
	VENUS	W.	59 20 12	3348	60 43 28	3333	62 7 1	3319	63 30 51	3304
	Antares	W.	58 50 25	2910	60 22 31	2898	61 54 53	2885	63 27 31	2871
	α Pegasi	E.	50 16 57	3499	48 56 32	3515	47 36 24	3533	46 16 36	3554
19	α Arietis	E.	89 44 1	2957	88 12 54	2945	86 41 32	2931	85 9 53	2919
	JUPITER	E.	112 31 34	2894	110 59 7	2880	109 26 23	2867	107 53 22	2854
	SUN	W.	112 52 41	3155	114 19 44	3138	115 47 8	3121	117 14 52	3104
	Antares	W.	71 15 13	2799	72 49 42	2783	74 24 32	2768	75 59 42	2751
	VENUS	W.	70 34 30	2923	72 0 12	2906	73 26 14	2889	74 52 36	2871
20	α Arietis	E.	77 27 21	2848	75 53 55	2834	74 20 11	2818	72 46 7	2804
	JUPITER	E.	100 3 43	2780	98 28 49	2764	96 53 34	2748	95 17 58	2732
	Aldebaran	E.	107 54 43	2863	106 21 37	2847	104 48 10	2830	103 14 21	2813
	SUN	W.	124 38 55	3014	126 8 51	2995	127 39 10	2976	129 9 53	2958
	Antares	W.	84 0 59	2968	85 38 22	2951	87 16 8	2933	88 54 18	2916
21	VENUS	W.	82 9 54	3079	83 38 29	3060	85 7 28	3040	86 36 51	3022
	α Arietis	E.	64 50 49	2796	63 14 44	2710	61 38 18	2695	60 1 32	2680
	JUPITER	E.	87 14 34	2849	85 36 45	2839	83 58 33	2815	82 19 58	2807
	Aldebaran	E.	95 19 44	2728	93 43 41	2710	92 7 14	2699	90 30 24	2675
	Antares	W.	97 11 5	2827	98 51 40	2810	100 32 39	2799	102 14 3	2775
22	VENUS	W.	94 9 43	2994	95 41 31	2905	97 13 43	2886	98 46 20	2867
	α Aquilæ	W.	54 9 4	2951	55 21 32	2876	56 35 16	2805	57 50 13	2740
	α Arietis	E.	51 52 35	2906	50 13 48	2593	48 34 43	2579	46 55 19	2566
	JUPITER	E.	74 1 4	2510	72 20 5	2492	70 38 41	2475	68 56 53	2458
	Aldebaran	E.	82 20 19	2568	80 41 7	2571	79 1 32	2554	77 21 34	2538

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
22	α Aquilæ W.	59 6 18	3677	60 23 29	3619	61 41 43	3564	63 0 57	3513
	α Arietis E.	45 15 38	3555	43 35 41	3543	41 55 28	3534	40 15 2	3525
	JUPITER E.	67 14 41	3441	65 32 5	3424	63 49 5	3408	62 5 41	3391
	Aldebaran E.	75 41 13	3521	74 0 29	3504	72 19 22	3489	70 37 53	3473
23	α Aquilæ W.	69 50 26	3696	71 14 42	3660	72 39 40	3627	74 5 17	3197
	Fomalhaut W.	38 32 50	3659	40 6 2	3605	41 40 23	3757	43 15 47	2713
	JUPITER E.	53 22 58	3314	51 37 19	3300	49 51 19	3286	48 4 59	2272
	Aldebaran E.	62 5 9	3402	60 21 37	3389	58 37 46	3378	56 53 39	3366
24	α Aquilæ W.	81 21 48	3073	82 50 32	3053	84 19 39	3036	85 49 7	3022
	Fomalhaut W.	51 26 3	3540	53 6 21	3513	54 47 16	3488	56 28 46	3465
	JUPITER E.	39 8 42	3216	37 20 38	3207	35 32 21	3196	33 43 51	3192
	Aldebaran E.	48 9 23	3323	46 23 57	3318	44 38 24	3314	42 52 45	3313
	Pollux E.	91 20 15	3214	89 32 8	3202	87 43 44	3191	85 55 3	3186
25	α Aquilæ W.	93 20 14	3277	94 50 56	3273	96 21 42	3273	97 52 21	3275
	Fomalhaut W.	65 3 43	3373	66 47 56	3359	68 32 30	3346	70 17 22	3335
	α Pegasi W.	45 39 5	3793	47 13 42	3747	48 49 19	3706	50 25 51	3689
	Pollux E.	76 47 44	3134	74 57 36	3126	73 7 16	3119	71 16 46	3113
26	Fomalhaut W.	79 5 18	3295	80 51 25	3291	82 37 38	3287	84 23 56	3285
	α Pegasi W.	58 39 21	3535	60 19 45	3517	62 0 35	3500	63 41 48	3486
	Pollux E.	62 2 14	3091	60 11 1	3089	58 19 45	3087	56 28 26	3086
	Regulus E.	98 42 51	3099	96 51 50	3096	95 0 45	3094	93 9 37	3093
27	Fomalhaut W.	93 15 53	3287	95 2 11	3291	96 48 23	3296	98 34 29	3301
	α Pegasi W.	72 12 2	3441	73 54 38	3437	75 37 20	3435	77 20 5	3433
	α Arietis W.	28 43 21	3287	30 29 39	3289	32 16 24	3255	34 3 30	3243
	Pollux E.	47 11 46	3090	45 20 31	3092	43 29 20	3096	41 38 14	3099
	Regulus E.	83 53 48	3006	82 2 43	3009	80 11 42	3101	78 20 45	3105
28	α Pegasi W.	85 53 48	3445	87 36 19	3450	89 18 43	3457	91 0 57	3464
	α Arietis W.	43 2 1	3291	44 49 57	3291	46 37 53	3293	48 25 47	3295
	Regulus E.	69 7 43	3139	67 17 33	3139	65 27 33	3146	63 37 44	3154
29	α Arietis W.	57 23 52	3251	59 11 4	3258	60 58 6	3266	62 44 56	3274
	JUPITER W.	35 28 12	3188	37 16 58	3195	39 5 33	3209	40 53 58	3210
	Aldebaran W.	27 40 18	3456	29 22 33	3438	31 5 14	3433	32 48 16	3413
	Regulus E.	54 31 48	3199	52 43 19	3209	50 55 5	3219	49 7 6	3231
	Sun E.	122 14 8	3496	120 32 49	3507	118 51 45	3517	117 10 55	3527
30	α Arietis W.	71 35 55	3290	73 21 25	3231	75 6 40	3249	76 51 39	3259
	JUPITER W.	49 52 55	3255	51 40 1	3264	53 26 53	3275	55 13 29	3285
	Aldebaran W.	41 25 42	3401	43 9 15	3403	44 52 45	3408	46 36 8	3412
	Regulus E.	40 11 28	3291	38 25 15	3304	36 39 21	3317	34 53 46	3331
	Sun E.	108 50 38	3585	107 11 23	3596	105 32 25	3610	103 53 44	3623
31	α Arietis W.	85 32 36	3409	87 15 58	3491	88 59 3	3433	90 41 51	3444
	JUPITER W.	64 2 35	3340	65 47 36	3352	67 32 20	3363	69 16 48	3375
	Aldebaran W.	55 11 0	3448	56 53 27	3456	58 35 42	3465	60 17 44	3475
	Sun E.	95 44 34	3686	94 7 35	3699	92 30 54	3712	90 54 30	3725

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
22	α Aquilæ W.	64° 21' 7"	3463	65° 42' 12"	3418	67° 4' 8"	3374	68° 26' 54"	3334
	α Arietis E.	38 34 23	2517	36 53 34	2512	35 12 37	2508	33 31 35	2507
	JUPITER E.	60 21 54	2375	58 37 44	2359	56 53 11	2344	55 8 16	2338
	Aldebaran E.	68 56 2	2458	67 13 49	2443	65 31 16	2429	63 48 22	2415
23	α Aquilæ W.	75 31 30	3168	76 58 18	3140	78 25 39	3115	79 53 30	3093
	Fomalhaut W.	44 52 9	2673	46 29 25	2635	48 7 32	2601	49 46 26	2569
	JUPITER E.	46 18 19	2360	44 31 20	2348	42 44 4	2327	40 56 31	2296
	Aldebaran E.	55 9 15	2355	53 24 36	2346	51 39 44	2337	49 54 39	2330
24	α Aquilæ W.	87 18 53	3009	88 48 55	2997	90 19 11	2989	91 49 38	2981
	Fomalhaut W.	58 10 49	2443	59 53 22	2423	61 36 24	2405	63 19 52	2389
	JUPITER E.	31 55 12	2188	30 6 26	2184	28 17 34	2181	26 28 38	2178
	Aldebaran E.	41 7 4	2312	39 21 22	2314	37 35 43	2318	35 50 10	2324
	Pollux E.	84 6 5	2170	82 16 52	2159	80 27 23	2150	78 37 40	2141
25	α Aquilæ W.	99 23 13	2978	100 53 53	2934	102 24 26	2902	103 54 49	3003
	Fomalhaut W.	72 2 31	2324	73 47 55	2315	75 33 32	2308	77 19 20	2301
	α Pegasi W.	52 3 12	2636	53 41 18	2607	55 20 4	2580	56 59 26	2556
	Pollux E.	69 26 7	2107	67 35 19	2103	65 44 24	2098	63 53 22	2094
26	Fomalhaut W.	86 10 18	2283	87 56 42	2283	89 43 7	2283	91 29 31	2285
	α Pegasi W.	65 23 21	2473	67 5 12	2463	68 47 17	2455	70 29 34	2447
	Pollux E.	54 37 6	2086	52 45 45	2086	50 54 24	2086	49 3 4	2086
	Regulus E.	91 18 27	2093	89 27 17	2092	87 36 6	2093	85 44 56	2094
27	Fomalhaut W.	100 20 27	2308	102 6 15	2315	103 51 53	2324	105 37 18	2333
	α Pegasi W.	79 2 53	2433	80 45 41	2434	82 28 27	2436	84 11 10	2440
	α Arietis W.	35 50 54	2235	37 38 30	2229	39 26 15	2225	41 14 6	2222
	Pollux E.	39 47 14	2103	37 56 20	2109	36 5 34	2114	34 14 56	2130
	Regulus E.	76 29 54	2109	74 39 9	2115	72 48 32	2120	70 58 3	2126
28	α Pegasi W.	92 43 1	2473	94 24 52	2483	96 6 29	2494	97 47 51	2506
	α Arietis W.	50 13 37	2229	52 1 22	2233	53 49 0	2239	55 36 30	2244
	Regulus E.	61 48 7	2162	59 58 42	2170	58 9 30	2180	56 20 32	2189
29	α Arietis W.	64 31 34	2282	66 18 0	2291	68 4 12	2300	69 50 11	2311
	JUPITER W.	42 42 11	2218	44 30 12	2227	46 18 0	2236	48 5 34	2245
	Aldebaran W.	34 31 32	2405	36 14 59	2409	37 58 31	2400	39 42 6	2399
	Regulus E.	47 19 24	2241	45 31 58	2253	43 44 50	2266	41 58 0	2278
	SUN E.	115 30 20	2539	113 50 1	2550	112 9 57	2561	110 30 9	2574
30	α Arietis W.	78 36 23	2363	80 20 51	2375	82 5 2	2386	83 48 57	2397
	JUPITER W.	56 59 50	2296	58 45 55	2307	60 31 45	2318	62 17 18	2329
	Aldebaran W.	48 19 25	2419	50 2 33	2424	51 45 33	2432	53 28 22	2440
	Regulus E.	33 8 32	2246	31 23 39	2260	29 39 7	2276	27 54 58	2292
	SUN E.	102 15 20	2635	100 37 13	2648	98 59 23	2660	97 21 50	2673
31	α Arietis W.	92 24 23	2457	94 6 37	2468	95 48 35	2481	97 30 15	2493
	JUPITER W.	71 0 59	2386	72 44 54	2397	74 28 33	2408	76 11 56	2420
	Aldebaran W.	61 59 33	2484	63 41 9	2494	65 22 31	2504	67 3 39	2514
	SUN E.	89 18 24	2738	87 42 35	2750	86 7 2	2763	84 31 46	2776

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S					Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from Apparent Time.	Diff. for 1 Hour.
		Appa ent Right As sension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.			
		h m s	s	S. ° ' "	"	"	s	m s	s
Wed.	1	14 27 36.17	9.813	S. 14 36 7.2	-47.83	16 9.89	67.00	16 20.45	0.043
Thur.	2	14 31 32.10	9.848	14 55 8.0	47.23	16 10.14	67.11	16 21.08	0.009
Frid.	3	14 35 28.87	9.883	15 13 54.4	46.62	16 10.37	67.23	16 20.86	0.026
Sat.	4	14 39 26.47	9.918	15 32 25.9	-45.99	16 10.61	67.35	16 19.82	0.061
SUN.	5	14 43 24.92	9.953	15 50 42.0	45.35	16 10.85	67.46	16 17.93	0.096
Mon.	6	14 47 24.22	9.988	16 8 42.5	44.68	16 11.08	67.58	16 15.20	0.131
Tues.	7	14 51 24.36	10.024	16 26 26.8	-44.00	16 11.31	67.70	16 11.62	0.167
Wed.	8	14 55 25.37	10.059	16 43 54.5	43.30	16 11.54	67.82	16 7.17	0.202
Thur.	9	14 59 27.21	10.095	17 1 5.1	42.58	16 11.77	67.94	16 1.96	0.238
Frid.	10	15 3 29.92	10.130	17 17 58.3	-41.84	16 12.00	68.06	15 55.76	0.273
Sat.	11	15 7 33.46	10.165	17 34 33.6	41.09	16 12.23	68.18	15 48.80	0.308
SUN.	12	15 11 37.86	10.200	17 50 50.6	40.32	16 12.45	68.29	15 40.99	0.343
Mon.	13	15 15 43.08	10.235	18 6 48.9	-39.53	16 12.68	68.41	15 32.35	0.378
Tues.	14	15 19 49.15	10.269	18 22 28.1	38.73	16 12.90	68.53	15 22.86	0.412
Wed.	15	15 23 56.04	10.303	18 37 47.8	37.91	16 13.11	68.65	15 12.55	0.446
Thur.	16	15 28 3.76	10.338	18 52 47.6	-37.07	16 13.33	68.77	15 1.42	0.481
Frid.	17	15 32 12.30	10.372	19 7 27.1	36.22	16 13.54	68.88	14 49.47	0.515
Sat.	18	15 36 21.66	10.405	19 21 46.0	35.35	16 13.75	69.00	14 36.70	0.549
SUN.	19	15 40 31.82	10.440	19 35 43.9	-34.47	16 13.95	69.11	14 23.14	0.582
Mon.	20	15 44 42.78	10.474	19 49 20.4	33.57	16 14.15	69.22	14 8.78	0.615
Tues.	21	15 48 54.55	10.507	20 2 35.2	32.66	16 14.34	69.33	13 53.60	0.648
Wed.	22	15 53 7.10	10.540	20 15 28.0	-31.73	16 14.53	69.44	13 37.66	0.681
Thur.	23	15 57 20.44	10.572	20 27 58.4	30.79	16 14.72	69.55	13 20.92	0.713
Frid.	24	16 1 34.54	10.602	20 40 6.1	29.84	16 14.90	69.65	13 3.42	0.745
Sat.	25	16 5 49.41	10.635	20 51 50.8	-28.88	16 15.07	69.76	12 45.16	0.776
SUN.	26	16 10 5.04	10.667	21 3 12.2	27.90	16 15.24	69.86	12 26.14	0.808
Mon.	27	16 14 21.41	10.698	21 14 9.8	26.90	16 15.40	69.95	12 6.38	0.839
Tues.	28	16 18 38.52	10.727	21 24 43.5	-25.90	16 15.56	70.05	11 45.89	0.868
Wed.	29	16 22 56.33	10.757	21 34 52.9	24.88	16 15.71	70.14	11 24.70	0.898
Thur.	30	16 27 14.84	10.785	21 44 37.7	23.85	16 15.86	70.23	11 2.81	0.926
Frid.	31	16 31 34.02	10.813	S. 21 53 57.6	-22.80	16 16.01	70.32	10 40.24	0.954

NOTE.—The mean time of semidiameter passing may be found by subtracting 0°.19 from the sideral time.

The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to Mean Time.	Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.			
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^s	^h ^m ^s
Wed.	1	14 27 38.84	9.814	S. 14 36' 20.2"	-47.82	16 20.46	0.043	14 43 59.30
Thur.	2	14 31 34.78	9.848	14 55 20.9	47.23	16 21.08	0.008	14 47 55.86
Frid.	3	14 35 31.56	9.883	15 14 7.1	46.61	16 20.85	0.027	14 51 52.41
Sat.	4	14 39 29.17	9.918	15 32 38.4	-45.98	16 19.80	0.061	14 55 48.97
SUN.	5	14 43 27.62	9.953	15 50 54.3	45.34	16 17.90	0.097	14 59 45.52
Mon.	6	14 47 26.92	9.988	16 8 54.6	44.67	16 15.16	0.132	15 3 42.08
Tues.	7	14 51 27.07	10.024	16 26 38.6	-43.99	16 11.57	0.168	15 7 38.64
Wed.	8	14 55 28.07	10.059	16 44 6.0	43.29	16 7.12	0.203	15 11 35.19
Thur.	9	14 59 29.91	10.095	17 1 16.4	42.57	16 1.84	0.238	15 15 31.75
Frid.	10	15 3 32.61	10.130	17 18 9.4	-41.83	15 55.69	0.273	15 19 28.30
Sat.	11	15 7 36.14	10.165	17 34 44.4	41.08	15 48.72	0.308	15 23 24.86
SUN.	12	15 11 40.52	10.200	17 51 1.1	40.31	15 40.90	0.343	15 27 21.42
Mon.	13	15 15 45.73	10.235	18 6 59.1	-39.52	15 32.25	0.378	15 31 17.98
Tues.	14	15 19 51.78	10.269	18 22 38.0	38.71	15 22.75	0.413	15 35 14.53
Wed.	15	15 23 58.65	10.303	18 37 57.4	37.89	15 12.44	0.446	15 39 11.09
Thur.	16	15 28 6.35	10.338	18 52 56.8	-37.05	15 1.30	0.481	15 43 7.65
Frid.	17	15 32 14.86	10.372	19 7 36.0	36.20	14 49.34	0.515	15 47 4.20
Sat.	18	15 36 24.19	10.405	19 21 54.6	35.34	14 36.57	0.549	15 51 0.76
SUN.	19	15 40 34.32	10.439	19 35 52.1	-34.45	14 23.00	0.582	15 54 57.32
Mon.	20	15 44 45.25	10.472	19 49 28.3	33.55	14 8.63	0.616	15 58 53.88
Tues.	21	15 48 56.98	10.505	20 2 42.7	32.64	13 53.45	0.649	16 2 50.43
Wed.	22	15 53 9.49	10.538	20 15 35.2	-31.72	13 37.50	0.681	16 6 46.99
Thur.	23	15 57 22.79	10.570	20 28 5.2	30.78	13 20.76	0.713	16 10 43.55
Frid.	24	16 1 36.85	10.602	20 40 12.6	29.83	13 3.26	0.745	16 14 40.11
Sat.	25	16 5 51.67	10.634	20 51 56.9	-28.86	12 44.99	0.777	16 18 36.66
SUN.	26	16 10 7.25	10.665	21 3 17.9	27.88	12 25.97	0.808	16 22 33.22
Mon.	27	16 14 23.57	10.695	21 14 15.2	26.89	12 6.21	0.839	16 26 29.78
Tues.	28	16 18 40.62	10.725	21 24 48.5	-25.88	11 45.72	0.868	16 30 26.34
Wed.	29	16 22 58.37	10.754	21 34 57.6	24.86	11 24.53	0.898	16 34 22.90
Thur.	30	16 27 16.82	10.783	21 44 42.0	23.83	11 2.64	0.926	16 38 19.46
Frid.	31	16 31 35.94	10.810	S. 21 54 1.6	-22.80	10 40.07	0.954	16 42 16.01

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
The sign — prefixed to the hourly change of declination indicates that south declinations are increasing.

Diff. for 1 Hour,
+ 9.8565.
(Table III.)

AT GREENWICH MEAN NOON.								
Day of the Month.	Day of the Year.	THE SUN'S				Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.			
		λ	λ'					
1	305	219° 18' 58.9	18 23.5	150.26	+ 0.38	9.9964508	-45.2	^h 9 ^m 14 ^s 29.61
2	306	220 19 6.3	18 30.7	150.35	0.31	9.9963429	44.8	9 10 33.70
3	307	221 19 15.8	18 40.1	150.44	0.22	9.9962359	44.4	9 6 37.79
4	308	222 19 27.4	18 51.5	150.53	+ 0.11	9.9961298	-44.0	9 2 41.88
5	309	223 19 41.1	19 5.1	150.61	- 0.02	9.9960245	43.7	8 58 45.97
6	310	224 19 56.8	19 20.6	150.69	0.15	9.9959199	43.5	8 54 50.06
7	311	225 20 14.3	19 38.0	150.77	- 0.28	9.9958159	-43.2	8 50 54.15
8	312	226 20 33.6	19 57.1	150.84	0.40	9.9957126	42.9	8 46 58.24
9	313	227 20 54.7	20 18.0	150.91	0.51	9.9956099	42.6	8 43 2.33
10	314	228 21 17.5	20 40.7	150.98	- 0.61	9.9955079	-42.3	8 39 6.42
11	315	229 21 41.9	21 4.9	151.05	0.68	9.9954066	41.9	8 35 10.51
12	316	230 22 7.8	21 30.7	151.11	0.72	9.9953062	41.6	8 31 14.60
13	317	231 22 35.1	21 57.8	151.16	- 0.73	9.9952068	-41.2	8 27 18.68
14	318	232 23 3.7	22 26.2	151.22	0.71	9.9951084	40.8	8 23 22.78
15	319	233 23 33.6	22 56.0	151.28	0.66	9.9950112	40.2	8 19 26.86
16	320	234 24 4.9	23 27.1	151.33	- 0.59	9.9949155	-39.6	8 15 30.95
17	321	235 24 37.4	23 59.4	151.38	0.49	9.9948213	38.9	8 11 35.05
18	322	236 25 11.2	24 33.1	151.43	0.37	9.9947288	38.2	8 7 39.13
19	323	237 25 46.2	25 7.9	151.48	- 0.24	9.9946381	-37.4	8 3 43.22
20	324	238 26 22.4	25 43.9	151.54	- 0.11	9.9945495	36.5	7 59 47.30
21	325	239 26 59.9	26 21.3	151.59	+ 0.02	9.9944630	35.6	7 55 51.36
22	326	240 27 38.7	26 59.9	151.64	+ 0.14	9.9943787	-34.6	7 51 55.48
23	327	241 28 18.7	27 39.7	151.69	0.24	9.9942967	33.7	7 47 59.57
24	328	242 29 0.0	28 20.8	151.75	0.32	9.9942170	32.7	7 44 3.66
25	329	243 29 42.7	29 3.4	151.81	+ 0.38	9.9941396	-31.8	7 40 7.75
26	330	244 30 26.9	29 47.4	151.87	0.41	9.9940645	30.8	7 36 11.84
27	331	245 31 12.5	30 32.8	151.93	0.41	9.9939917	29.9	7 32 15.92
28	332	246 31 59.6	31 19.7	151.99	+ 0.37	9.9939212	-28.9	7 28 20.01
29	333	247 32 48.1	32 8.0	152.05	0.30	9.9938529	28.0	7 24 24.10
30	334	248 33 38.1	32 57.9	152.11	0.21	9.9937866	27.3	7 20 28.18
31	335	249 34 29.5	33 49.1	152.17	+ 0.11	9.9937222	-26.6	7 16 32.28
NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0 ^d .0.								
Diff. for 1 Hour, — 9 ^m .8226. (Table II.)								

GREENWICH MEAN TIME.

Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 53.4	15' 46.2	58' 12.5	-1.60	57' 53.2	-1.58	^h 19 ^m 16.7	^m 2.04	^d 22.6
2	15 43.1	15 38.1	57 34.5	1.55	57 16.1	1.51	20 3.7	1.88	23.6
3	15 33.2	15 28.6	56 58.3	1.45	56 41.2	1.40	20 47.6	1.79	24.6
4	15 24.1	15 19.8	56 24.7	-1.34	56 9.0	-1.28	21 30.0	1.74	25.6
5	15 15.7	15 11.8	55 54.0	1.22	55 39.7	1.16	22 11.9	1.75	26.6
6	15 8.1	15 4.7	55 26.2	1.09	55 13.5	1.03	22 54.5	1.80	27.6
7	15 1.4	14 58.3	55 1.4	-0.97	54 50.2	-0.90	23 38.8	1.88	28.6
8	14 55.5	14 52.9	54 39.8	0.83	54 30.3	0.75	♄		0.0
9	14 50.6	14 48.7	54 21.9	0.65	54 14.7	0.55	0 24.9	1.97	1.0
10	14 47.0	14 45.8	54 8.6	-0.45	54 4.0	-0.32	1 13.4	2.06	2.0
11	14 44.9	14 44.5	54 0.9	-0.19	53 59.5	-0.04	2 3.9	2.13	3.0
12	14 44.6	14 45.3	53 59.9	+0.12	54 2.3	+0.29	2 55.2	2.14	4.0
13	14 46.5	14 48.4	54 6.8	+0.47	54 13.6	+0.66	3 46.4	2.11	5.0
14	14 50.8	14 54.0	54 22.6	0.85	54 34.1	1.06	4 36.2	2.04	6.0
15	14 57.7	15 2.2	54 48.0	1.26	55 4.3	1.46	5 24.1	1.96	7.0
16	15 7.3	15 13.0	55 23.0	+1.66	55 44.1	+1.85	6 10.4	1.89	8.0
17	15 19.4	15 26.2	56 7.4	2.02	56 32.6	2.17	6 55.1	1.85	9.0
18	15 33.5	15 41.2	56 59.5	2.30	57 27.7	2.38	7 39.3	1.85	10.0
19	15 49.1	15 57.1	57 56.7	+2.43	58 26.1	+2.43	8 24.2	1.90	11.0
20	16 5.0	16 12.7	58 55.1	2.38	59 23.2	2.27	9 11.2	2.02	12.0
21	16 19.9	16 26.4	59 49.6	2.10	60 13.7	1.88	10 1.9	2.20	13.0
22	16 32.1	16 36.8	60 34.6	+1.58	60 51.7	+1.25	10 57.3	2.43	14.0
23	16 40.3	16 42.5	61 4.6	0.88	61 12.8	+0.48	11 58.4	2.65	15.0
24	16 43.4	16 43.0	61 16.2	+0.07	61 14.5	-0.34	13 4.1	2.80	16.0
25	16 41.2	16 38.3	61 8.1	-0.72	60 57.2	-1.08	14 11.7	2.80	17.0
26	16 34.2	16 29.2	60 42.3	1.38	60 24.0	1.64	15 17.2	2.64	18.0
27	16 23.5	16 17.1	60 2.9	1.85	59 39.6	2.00	16 17.8	2.40	19.0
28	16 10.4	16 3.4	59 14.8	-2.10	58 49.3	-2.15	17 12.4	2.15	20.0
29	15 56.4	15 49.4	58 23.3	2.15	57 57.6	2.12	18 1.6	1.96	21.0
30	15 42.5	15 36.0	57 32.5	2.05	57 8.4	1.96	18 46.9	1.82	22.0
31	15 29.7	15 23.8	56 45.4	-1.86	56 23.7	-1.74	19 29.6	1.75	23.0

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 1.					FRIDAY 3.				
0	9 21 23.39	2.9769	N. 20° 24' 30.4	11.897	0	11 2 44.44	1.9745	N. 9° 30' 45.5	14.850
1	9 23 39.77	2.9891	20 12 37.6	11.937	1	11 4 42.78	1.9709	9 15 53.6	14.879
2	9 25 55.68	2.9613	20 0 39.2	12.025	2	11 6 40.87	1.9660	9 1 0.0	14.907
3	9 28 11.13	2.9536	19 48 34.8	12.121	3	11 8 38.70	1.9618	8 46 4.8	14.934
4	9 30 26.11	2.9459	19 36 24.7	12.215	4	11 10 36.28	1.9577	8 31 8.0	14.960
5	9 32 40.63	2.9382	19 24 9.0	12.307	5	11 12 33.62	1.9537	8 16 9.6	14.985
6	9 34 54.69	2.9306	19 11 47.8	12.398	6	11 14 30.72	1.9497	8 1 9.8	15.007
7	9 37 8.30	2.9230	18 59 21.2	12.487	7	11 16 27.59	1.9459	7 46 8.7	15.029
8	9 39 21.45	2.9154	18 46 49.3	12.575	8	11 18 24.23	1.9422	7 31 6.3	15.051
9	9 41 34.15	2.9080	18 34 12.2	12.661	9	11 20 20.65	1.9386	7 16 2.6	15.072
10	9 43 46.41	2.9006	18 21 30.0	12.746	10	11 22 16.86	1.9350	7 0 57.7	15.091
11	9 45 58.23	2.1939	18 8 42.7	12.828	11	11 24 12.85	1.9314	6 45 51.7	15.108
12	9 48 9.60	2.1859	17 55 50.6	12.908	12	11 26 8.63	1.9280	6 30 44.7	15.124
13	9 50 20.54	2.1788	17 42 53.7	12.988	13	11 28 4.21	1.9247	6 15 36.8	15.140
14	9 52 31.06	2.1717	17 29 52.0	13.067	14	11 29 59.60	1.9215	6 0 27.9	15.155
15	9 54 41.15	2.1647	17 16 45.7	13.143	15	11 31 54.79	1.9183	5 45 18.2	15.168
16	9 56 50.82	2.1577	17 3 34.9	13.217	16	11 33 49.79	1.9152	5 30 7.8	15.180
17	9 59 0.07	2.1507	16 50 19.7	13.290	17	11 35 44.62	1.9123	5 14 56.6	15.192
18	10 1 8.90	2.1438	16 37 0.1	13.362	18	11 37 39.27	1.9094	4 59 44.8	15.202
19	10 3 17.32	2.1370	16 23 36.2	13.432	19	11 39 33.75	1.9066	4 44 32.4	15.211
20	10 5 25.34	2.1304	16 10 8.2	13.500	20	11 41 28.06	1.9038	4 29 19.5	15.218
21	10 7 32.97	2.1238	15 56 36.2	13.567	21	11 43 22.21	1.9012	4 14 6.2	15.225
22	10 9 40.20	2.1179	15 43 0.2	13.633	22	11 45 16.20	1.8986	3 58 52.5	15.232
23	10 11 47.03	2.1106	N. 15° 29' 20.2	13.698	23	11 47 10.04	1.8962	N. 3° 43' 38.4	15.237
THURSDAY 2.					SATURDAY 4.				
0	10 13 53.47	2.1049	N. 15° 15' 36.4	13.761	0	11 49 3.74	1.8938	N. 3° 28' 24.1	15.240
1	10 15 59.53	2.0979	15 1 48.9	13.822	1	11 50 57.30	1.8915	3 13 9.6	15.242
2	10 18 5.22	2.0916	14 47 57.8	13.881	2	11 52 50.72	1.8892	2 57 55.0	15.244
3	10 20 10.53	2.0854	14 34 3.2	13.939	3	11 54 44.00	1.8870	2 42 40.3	15.245
4	10 22 15.47	2.0793	14 20 5.1	13.996	4	11 56 37.16	1.8850	2 27 25.6	15.245
5	10 24 20.05	2.0733	14 6 3.7	14.051	5	11 58 30.20	1.8831	2 12 10.9	15.244
6	10 26 24.27	2.0673	13 51 59.0	14.105	6	12 0 23.13	1.8812	1 56 56.3	15.242
7	10 28 28.13	2.0615	13 37 51.1	14.157	7	12 2 15.94	1.8793	1 41 41.9	15.238
8	10 30 31.65	2.0557	13 23 40.1	14.209	8	12 4 8.64	1.8776	1 26 27.7	15.234
9	10 32 34.82	2.0500	13 9 26.0	14.259	9	12 6 1.25	1.8760	1 11 13.8	15.228
10	10 34 37.65	2.0444	12 55 9.0	14.307	10	12 7 53.76	1.8743	0 56 0.3	15.222
11	10 36 40.15	2.0388	12 40 49.1	14.354	11	12 9 46.17	1.8727	0 40 47.1	15.216
12	10 38 42.31	2.0333	12 26 26.5	14.399	12	12 11 38.49	1.8713	0 25 34.4	15.208
13	10 40 44.15	2.0280	12 12 1.2	14.444	13	12 13 30.73	1.8700	N. 0° 10' 22.2	15.198
14	10 42 45.67	2.0227	11 57 33.2	14.488	14	12 15 22.89	1.8687	S. 0° 4' 49.4	15.187
15	10 44 46.88	2.0176	11 43 2.6	14.530	15	12 17 14.98	1.8676	0 20 0.3	15.176
16	10 46 47.78	2.0125	11 28 29.6	14.570	16	12 19 7.00	1.8665	0 35 10.5	15.164
17	10 48 48.38	2.0074	11 13 54.2	14.610	17	12 20 58.96	1.8655	0 50 20.0	15.152
18	10 50 48.67	2.0024	10 59 16.4	14.648	18	12 22 50.86	1.8645	1 5 28.7	15.138
19	10 52 48.67	1.9976	10 44 36.4	14.685	19	12 24 42.70	1.8636	1 20 36.5	15.123
20	10 54 48.38	1.9928	10 29 54.2	14.720	20	12 26 34.49	1.8628	1 35 43.4	15.107
21	10 56 47.81	1.9889	10 15 10.0	14.754	21	12 28 26.24	1.8622	1 50 49.3	15.090
22	10 58 46.96	1.9836	10 0 23.8	14.787	22	12 30 17.95	1.8615	2 5 54.2	15.072
23	11 0 45.84	1.9790	9 45 35.6	14.819	23	12 32 9.62	1.8609	2 20 58.0	15.053
24	11 2 44.44	1.9745	N. 9° 30' 45.5	14.850	24	12 34 1.26	1.8604	S. 2° 36' 0.6	15.033

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 5.					TUESDAY 7.				
0	12 34 1.96	1.8604	S. 2° 36' 0.6"	15.033	0	14 4 4.12	1.9157	S. 13° 57' 33.7"	13.017
1	12 35 52.87	1.8600	2 51 2.0	15.013	1	14 5 59.14	1.9183	14 10 32.8	12.952
2	12 37 44.46	1.8596	3 6 2.4	14.992	2	14 7 54.32	1.9210	14 23 28.0	12.887
3	12 39 36.03	1.8593	3 21 1.1	14.970	3	14 9 49.66	1.9237	14 36 19.3	12.822
4	12 41 27.58	1.8589	3 35 58.6	14.946	4	14 11 45.16	1.9264	14 49 6.6	12.755
5	12 43 19.13	1.8591	3 50 54.6	14.921	5	14 13 40.83	1.9292	15 1 49.9	12.687
6	12 45 10.67	1.8590	4 5 49.1	14.896	6	14 15 36.66	1.9319	15 14 29.1	12.619
7	12 47 2.21	1.8590	4 20 42.1	14.870	7	14 17 32.66	1.9347	15 27 4.2	12.550
8	12 48 53.75	1.8591	4 35 33.5	14.842	8	14 19 28.83	1.9377	15 39 35.1	12.479
9	12 50 45.30	1.8592	4 50 23.2	14.814	9	14 21 25.18	1.9407	15 52 1.7	12.408
10	12 52 36.86	1.8595	5 5 11.2	14.786	10	14 23 21.71	1.9437	16 4 24.0	12.336
11	12 54 28.44	1.8598	5 19 57.5	14.757	11	14 25 18.42	1.9466	16 16 42.0	12.263
12	12 56 20.03	1.8601	5 34 42.0	14.726	12	14 27 15.30	1.9496	16 28 55.6	12.189
13	12 58 11.65	1.8606	5 49 24.6	14.694	13	14 29 12.37	1.9527	16 41 4.7	12.114
14	13 0 3.30	1.8611	6 4 5.3	14.661	14	14 31 9.63	1.9558	16 53 9.3	12.038
15	13 1 54.98	1.8617	6 18 43.9	14.627	15	14 33 7.07	1.9589	17 5 9.3	11.962
16	13 3 46.70	1.8623	6 33 20.5	14.593	16	14 35 4.70	1.9622	17 17 4.7	11.885
17	13 5 38.46	1.8631	6 47 55.1	14.558	17	14 37 2.53	1.9654	17 28 55.5	11.807
18	13 7 30.27	1.8639	7 2 27.5	14.522	18	14 39 0.55	1.9687	17 40 41.5	11.727
19	13 9 22.13	1.8647	7 16 57.7	14.485	19	14 40 58.77	1.9719	17 52 22.7	11.647
20	13 11 14.04	1.8656	7 31 25.7	14.447	20	14 42 57.18	1.9752	18 3 59.1	11.566
21	13 13 6.00	1.8666	7 45 51.3	14.408	21	14 44 55.79	1.9786	18 15 30.6	11.484
22	13 14 58.03	1.8677	8 0 14.6	14.368	22	14 46 54.61	1.9820	18 26 57.2	11.402
23	13 16 50.12	1.8688	S. 8 14 35.5	14.327	23	14 48 53.63	1.9853	S. 18 38 18.8	11.318
MONDAY 6.					WEDNESDAY 8.				
0	13 18 42.28	1.8699	S. 8 28 53.9	14.286	0	14 50 52.85	1.9887	S. 18 49 35.3	11.233
1	13 20 34.51	1.8712	8 43 9.8	14.243	1	14 52 52.28	1.9922	19 0 46.7	11.148
2	13 22 26.82	1.8725	8 57 23.1	14.199	2	14 54 51.92	1.9957	19 11 53.0	11.063
3	13 24 19.21	1.8738	9 11 33.7	14.154	3	14 56 51.76	1.9992	19 22 54.2	10.976
4	13 26 11.68	1.8752	9 25 41.6	14.109	4	14 58 51.82	2.0027	19 33 50.1	10.887
5	13 28 4.24	1.8767	9 39 46.8	14.064	5	15 0 52.09	2.0062	19 44 40.6	10.797
6	13 29 56.89	1.8782	9 53 49.3	14.017	6	15 2 52.57	2.0098	19 55 25.7	10.707
7	13 31 49.63	1.8799	10 7 48.9	13.969	7	15 4 53.27	2.0134	20 6 5.4	10.617
8	13 33 42.47	1.8816	10 21 45.6	13.920	8	15 6 54.18	2.0169	20 16 39.7	10.526
9	13 35 35.42	1.8833	10 35 39.3	13.870	9	15 8 55.30	2.0205	20 27 8.5	10.433
10	13 37 28.47	1.8851	10 49 30.0	13.819	10	15 10 56.64	2.0242	20 37 31.7	10.340
11	13 39 21.63	1.8870	11 3 17.6	13.768	11	15 12 58.20	2.0278	20 47 49.3	10.247
12	13 41 14.91	1.8889	11 17 2.2	13.716	12	15 14 59.98	2.0315	20 58 1.3	10.152
13	13 43 8.30	1.8908	11 30 13.6	13.663	13	15 17 1.98	2.0352	21 8 7.5	10.055
14	13 45 1.81	1.8928	11 44 21.8	13.608	14	15 19 4.20	2.0387	21 18 7.9	9.959
15	13 46 55.44	1.8948	11 57 56.6	13.553	15	15 21 6.63	2.0423	21 28 2.6	9.862
16	13 48 49.19	1.8969	12 11 28.1	13.497	16	15 23 9.28	2.0460	21 37 51.4	9.764
17	13 50 43.07	1.8992	12 24 56.2	13.440	17	15 25 12.15	2.0498	21 47 34.3	9.665
18	13 52 37.09	1.9014	12 38 20.9	13.382	18	15 27 15.25	2.0535	21 57 11.2	9.565
19	13 54 31.24	1.9037	12 51 42.1	13.323	19	15 29 18.57	2.0571	22 6 42.1	9.464
20	13 56 25.53	1.9060	13 4 59.7	13.263	20	15 31 22.10	2.0608	22 16 6.9	9.363
21	13 58 19.96	1.9083	13 18 13.7	13.203	21	15 33 25.86	2.0645	22 25 25.6	9.261
22	14 0 14.53	1.9107	13 31 24.1	13.142	22	15 35 29.84	2.0682	22 34 38.2	9.157
23	14 2 9.25	1.9132	13 44 30.8	13.080	23	15 37 34.04	2.0718	22 43 44.5	9.053
24	14 4 4.12	1.9157	S. 13 57 33.7	13.017	24	15 39 38.46	2.0755	S. 22 52 44.6	8.949

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 9.					SATURDAY 11.				
0	15 39 38.46	2.0755	S. 2° 52' 44.6"	8.949	0	17 23 1.60	2.9163	S. 27° 48' 11.8"	2.132
1	15 41 43.10	2.0791	23 1 38.4	8.843	1	17 25 14.63	2.9179	27 51 15.7	2.986
2	15 43 47.96	2.0827	23 10 25.8	8.737	2	17 27 27.75	2.9195	27 54 11.6	2.964
3	15 45 53.03	2.0863	23 19 6.8	8.630	3	17 29 40.97	2.9211	27 56 59.4	2.739
4	15 47 58.32	2.0900	23 27 41.4	8.523	4	17 31 54.28	2.9226	27 59 39.2	2.596
5	15 50 3.83	2.0937	23 36 9.5	8.413	5	17 34 7.67	2.9238	28 2 10.9	2.461
6	15 52 9.56	2.0973	23 44 31.0	8.303	6	17 36 21.13	2.9250	28 4 34.5	2.335
7	15 54 15.50	2.1008	23 52 45.9	8.193	7	17 38 34.67	2.9262	28 6 50.0	2.191
8	15 56 21.66	2.1044	24 0 54.2	8.083	8	17 40 48.28	2.9274	28 8 57.4	2.053
9	15 58 28.03	2.1079	24 8 55.9	7.973	9	17 43 1.96	2.9285	28 10 56.6	1.919
10	16 0 34.61	2.1114	24 16 50.9	7.860	10	17 45 15.70	2.9295	28 12 47.7	1.783
11	16 2 41.40	2.1150	24 24 39.1	7.746	11	17 47 29.50	2.9304	28 14 30.6	1.647
12	16 4 48.41	2.1186	24 32 20.4	7.632	12	17 49 43.35	2.9312	28 16 5.3	1.510
13	16 6 55.63	2.1220	24 39 54.9	7.517	13	17 51 57.25	2.9320	28 17 31.8	1.374
14	16 9 3.05	2.1253	24 47 22.5	7.402	14	17 54 11.19	2.9327	28 18 50.2	1.238
15	16 11 10.67	2.1287	24 54 43.2	7.287	15	17 56 25.17	2.9333	28 20 0.4	1.102
16	16 13 18.50	2.1321	25 1 56.9	7.170	16	17 58 39.18	2.9338	28 21 2.4	0.965
17	16 15 26.53	2.1354	25 9 3.6	7.053	17	18 0 53.22	2.9343	28 21 56.2	0.828
18	16 17 34.75	2.1387	25 16 3.2	6.935	18	18 3 7.29	2.9347	28 22 41.8	0.692
19	16 19 43.17	2.1420	25 22 55.8	6.817	19	18 5 21.38	2.9349	28 23 19.2	0.555
20	16 21 51.79	2.1453	25 29 41.2	6.697	20	18 7 35.48	2.9351	28 23 48.4	0.417
21	16 24 0.61	2.1486	25 36 19.4	6.577	21	18 9 49.59	2.9352	28 24 9.3	0.280
22	16 26 9.62	2.1517	25 42 50.4	6.456	22	18 12 3.71	2.9353	28 24 22.0	0.143
23	16 28 18.81	2.1548	S. 25° 49' 14.1"	6.335	23	18 14 17.83	2.9352	S. 28° 24' 26.5"	- 0.006
FRIDAY 10.					SUNDAY 12.				
0	16 30 28.19	2.1579	S. 25° 55' 30.6"	6.214	0	18 16 31.94	2.9351	S. 28° 24' 22.7"	+ 0.131
1	16 32 37.76	2.1610	26 1 39.8	6.092	1	18 18 46.04	2.9349	28 24 10.7	0.986
2	16 34 47.51	2.1639	26 7 41.6	5.968	2	18 21 0.13	2.9347	28 23 50.5	0.845
3	16 36 57.43	2.1668	26 13 35.9	5.843	3	18 23 14.21	2.9345	28 23 22.1	0.702
4	16 39 7.53	2.1697	26 19 22.8	5.719	4	18 25 28.27	2.9341	28 22 45.5	0.578
5	16 41 17.80	2.1727	26 25 2.2	5.595	5	18 27 42.30	2.9335	28 22 0.7	0.455
6	16 43 28.25	2.1756	26 30 34.2	5.470	6	18 29 56.29	2.9329	28 21 7.7	0.332
7	16 45 38.87	2.1783	26 35 58.6	5.344	7	18 32 10.25	2.9323	28 20 6.5	0.209
8	16 47 49.65	2.1809	26 41 15.4	5.218	8	18 34 24.17	2.9316	28 18 57.1	0.085
9	16 50 0.58	2.1835	26 46 24.7	5.091	9	18 36 38.04	2.9308	28 17 39.5	0.961
10	16 52 11.67	2.1861	26 51 26.3	4.963	10	18 38 51.86	2.9299	28 16 13.8	1.837
11	16 54 22.92	2.1887	26 56 20.2	4.835	11	18 41 5.63	2.9290	28 14 39.9	2.713
12	16 56 34.32	2.1912	27 1 6.5	4.707	12	18 43 19.34	2.9280	28 12 57.8	3.589
13	16 58 45.87	2.1937	27 5 45.0	4.578	13	18 45 32.99	2.9269	28 11 7.6	4.464
14	17 0 57.56	2.1960	27 10 15.8	4.448	14	18 47 46.57	2.9258	28 9 9.3	5.340
15	17 3 9.39	2.1983	27 14 38.8	4.318	15	18 50 0.08	2.9246	28 7 2.8	6.216
16	17 5 21.36	2.2006	27 18 54.0	4.188	16	18 52 13.52	2.9233	28 4 48.2	7.092
17	17 7 33.46	2.2028	27 23 1.4	4.058	17	18 54 26.87	2.9219	28 2 25.6	7.968
18	17 9 45.70	2.2050	27 27 0.9	3.927	18	18 56 40.14	2.9205	27 59 54.9	8.844
19	17 11 58.06	2.2070	27 30 52.6	3.795	19	18 58 53.33	2.9190	27 57 16.2	9.720
20	17 14 10.54	2.2090	27 34 36.3	3.663	20	19 1 6.42	2.9174	27 54 29.4	10.596
21	17 16 23.14	2.2109	27 38 12.1	3.531	21	19 3 19.42	2.9158	27 51 34.5	11.472
22	17 18 35.85	2.2128	27 41 40.0	3.398	22	19 5 32.32	2.9141	27 48 31.6	12.348
23	17 20 48.67	2.2146	27 44 59.9	3.265	23	19 7 45.11	2.9124	27 45 20.8	13.224
24	17 23 1.60	2.2163	S. 27° 48' 11.8"	3.132	24	19 9 57.80	2.9106	S. 27° 42' 2.0"	14.100

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 13.					WEDNESDAY 15.				
0	19 9 57.80	2.9106	S. 27° 42' 2.0	3.379	0	20 53 7.84	2.0778	S. 22° 35' 31.7	9.185
1	19 12 10.38	2.9087	27 38 35.3	3.519	1	20 55 12.42	2.0747	22 26 17.4	9.991
2	19 14 22.84	2.9067	27 35 0.6	3.644	2	20 57 16.81	2.0716	22 16 56.8	9.397
3	19 16 35.18	2.9047	27 31 18.0	3.776	3	20 59 21.01	2.0685	22 7 29.8	9.509
4	19 18 47.41	2.9027	27 27 27.5	3.906	4	21 1 25.03	2.0655	21 57 56.5	9.607
5	19 20 59.51	2.9006	27 23 29.2	4.037	5	21 3 28.87	2.0624	21 48 17.0	9.711
6	19 23 11.48	2.1984	27 19 23.0	4.168	6	21 5 32.52	2.0593	21 38 31.2	9.814
7	19 25 23.32	2.1963	27 15 9.0	4.298	7	21 7 35.99	2.0563	21 28 39.3	9.917
8	19 27 35.03	2.1940	27 10 47.2	4.428	8	21 9 39.28	2.0533	21 18 41.2	10.019
9	19 29 46.60	2.1917	27 6 17.7	4.557	9	21 11 42.39	2.0503	21 8 37.0	10.191
10	19 31 58.03	2.1893	27 1 40.4	4.686	10	21 13 45.32	2.0473	20 58 26.7	10.291
11	19 34 9.32	2.1869	26 56 55.4	4.814	11	21 15 48.07	2.0444	20 48 10.5	10.390
12	19 36 20.46	2.1844	26 52 2.8	4.941	12	21 17 50.65	2.0415	20 37 48.3	10.419
13	19 38 31.45	2.1819	26 47 2.5	5.069	13	21 19 53.05	2.0386	20 27 20.2	10.518
14	19 40 42.29	2.1794	26 41 54.6	5.196	14	21 21 55.28	2.0357	20 16 46.1	10.617
15	19 42 52.98	2.1768	26 36 39.0	5.322	15	21 23 57.34	2.0329	20 6 6.1	10.715
16	19 45 3.51	2.1743	26 31 15.9	5.448	16	21 25 59.23	2.0301	19 55 20.3	10.811
17	19 47 13.88	2.1716	26 25 45.2	5.574	17	21 28 0.95	2.0273	19 44 28.8	10.906
18	19 49 24.10	2.1689	26 20 7.0	5.698	18	21 30 2.51	2.0246	19 33 31.6	11.001
19	19 51 34.15	2.1661	26 14 21.4	5.823	19	21 32 3.91	2.0219	19 22 28.7	11.096
20	19 53 44.03	2.1633	26 8 28.3	5.948	20	21 34 5.14	2.0192	19 11 20.1	11.190
21	19 55 53.74	2.1605	26 2 27.7	6.073	21	21 36 6.21	2.0166	19 0 5.9	11.283
22	19 58 3.29	2.1577	25 56 19.7	6.194	22	21 38 7.13	2.0140	18 48 46.2	11.375
23	20 0 12.66	2.1548	S. 25 50 4.4	6.316	23	21 40 7.89	2.0113	S. 18 37 20.9	11.467
TUESDAY 14.					THURSDAY 16.				
0	20 2 21.86	2.1519	S. 25 43 41.8	6.438	0	21 42 8.49	2.0087	S. 18 25 50.1	11.558
1	20 4 30.89	2.1490	25 37 11.9	6.559	1	21 44 8.94	2.0063	18 14 13.9	11.648
2	20 6 39.74	2.1460	25 30 34.7	6.680	2	21 46 9.25	2.0039	18 2 32.3	11.738
3	20 8 48.41	2.1430	25 23 50.3	6.800	3	21 48 9.41	2.0015	17 50 45.3	11.827
4	20 10 56.90	2.1400	25 16 58.7	6.919	4	21 50 9.43	1.9992	17 38 53.0	11.915
5	20 13 5.21	2.1370	25 10 0.0	7.038	5	21 52 9.31	1.9969	17 26 55.5	12.003
6	20 15 13.34	2.1340	25 2 54.2	7.156	6	21 54 9.05	1.9946	17 14 52.7	12.090
7	20 17 21.29	2.1309	24 55 41.3	7.274	7	21 56 8.66	1.9923	17 2 44.7	12.176
8	20 19 29.05	2.1278	24 48 21.3	7.392	8	21 58 8.13	1.9901	16 50 31.6	12.261
9	20 21 36.63	2.1248	24 40 54.3	7.509	9	22 0 7.47	1.9880	16 38 13.4	12.346
10	20 23 44.03	2.1217	24 33 20.3	7.625	10	22 2 6.69	1.9860	16 25 50.1	12.430
11	20 25 51.24	2.1186	24 25 39.3	7.741	11	22 4 5.79	1.9839	16 13 21.8	12.513
12	20 27 58.26	2.1154	24 17 51.4	7.855	12	22 6 4.76	1.9819	16 0 48.5	12.596
13	20 30 5.09	2.1123	24 9 56.7	7.969	13	22 8 3.62	1.9800	15 48 10.3	12.677
14	20 32 11.74	2.1099	24 1 55.1	8.083	14	22 10 2.36	1.9781	15 35 27.2	12.758
15	20 34 18.20	2.1061	23 53 46.7	8.196	15	22 12 0.99	1.9762	15 22 39.3	12.838
16	20 36 24.47	2.1029	23 45 31.6	8.308	16	22 13 59.51	1.9745	15 9 46.6	12.918
17	20 38 30.55	2.0997	23 37 9.8	8.420	17	22 15 57.93	1.9728	14 56 49.1	12.998
18	20 40 36.44	2.0966	23 28 41.2	8.532	18	22 17 56.25	1.9719	14 43 46.8	13.076
19	20 42 42.14	2.0935	23 20 6.0	8.642	19	22 19 54.47	1.9696	14 30 39.9	13.153
20	20 44 47.66	2.0904	23 11 24.2	8.751	20	22 21 52.60	1.9680	14 17 28.4	13.230
21	20 46 52.99	2.0873	23 2 35.9	8.860	21	22 23 50.63	1.9664	14 4 12.3	13.307
22	20 48 58.13	2.0841	22 53 41.0	8.969	22	22 25 48.57	1.9651	13 50 51.6	13.389
23	20 51 3.08	2.0809	22 44 39.6	9.077	23	22 27 46.44	1.9638	13 37 26.5	13.456
24	20 53 7.84	2.0778	S. 22 35 31.7	9.185	24	22 29 44.23	1.9625	S. 13 23 56.9	13.530

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 17.					SUNDAY 19.				
0	22 29 44.23	1.9695	S. 13° 23' 56.9"	13.530	0	0 3 46.68	1.9661	S. 1° 24' 57.9"	16.063
1	22 31 41.94	1.9613	13 10 22.9	13.603	1	0 5 45.92	1.9687	1 8 52.0	16.113
2	22 33 39.58	1.9601	12 56 44.6	13.675	2	0 7 45.32	1.9619	0 52 44.3	16.149
3	22 35 37.15	1.9589	12 43 1.9	13.747	3	0 9 44.87	1.9638	0 36 35.0	16.168
4	22 37 34.65	1.9578	12 29 14.9	13.817	4	0 11 44.58	1.9667	0 20 24.1	16.194
5	22 39 32.09	1.9569	12 15 23.8	13.887	5	0 13 44.47	1.9697	S. 0 4 11.7	16.219
6	22 41 29.48	1.9560	12 1 28.5	13.956	6	0 15 44.54	1.9697	N. 0 12 2.2	16.242
7	22 43 26.81	1.9551	11 47 29.1	14.024	7	0 17 44.79	1.9657	0 28 17.4	16.265
8	22 45 24.09	1.9543	11 33 25.6	14.093	8	0 19 45.22	1.9688	0 44 34.0	16.287
9	22 47 21.33	1.9537	11 19 18.0	14.159	9	0 21 45.85	1.9721	1 0 51.8	16.308
10	22 49 18.53	1.9530	11 5 6.5	14.225	10	0 23 46.68	1.9755	1 17 10.7	16.328
11	22 51 15.69	1.9524	10 50 51.0	14.291	11	0 25 47.71	1.9789	1 33 30.7	16.348
12	22 53 12.82	1.9519	10 36 31.6	14.355	12	0 27 48.95	1.9825	1 49 51.7	16.368
13	22 55 9.92	1.9515	10 22 8.4	14.419	13	0 29 50.41	1.9869	2 6 13.6	16.387
14	22 57 7.00	1.9512	10 7 41.4	14.483	14	0 31 52.09	1.9899	2 22 36.4	16.398
15	22 59 4.06	1.9508	9 53 10.6	14.544	15	0 33 53.99	1.9937	2 38 59.9	16.407
16	23 1 1.10	1.9506	9 38 36.1	14.605	16	0 35 56.13	1.9977	2 55 24.1	16.408
17	23 2 58.13	1.9505	9 23 58.0	14.665	17	0 37 58.51	1.9917	3 11 48.9	16.418
18	23 4 55.16	1.9504	9 9 16.3	14.725	18	0 40 1.13	1.9958	3 28 14.2	16.406
19	23 6 52.18	1.9504	8 54 31.0	14.783	19	0 42 4.00	1.9999	3 44 40.0	16.423
20	23 8 49.21	1.9506	8 39 42.3	14.841	20	0 44 7.13	1.9943	4 1 6.1	16.437
21	23 10 46.25	1.9508	8 24 50.1	14.898	21	0 46 10.52	1.9987	4 17 32.4	16.449
22	23 12 43.30	1.9510	8 9 54.5	14.954	22	0 48 14.18	1.9939	4 33 58.9	16.448
23	23 14 40.37	1.9513	S. 7 54 55.6	15.009	23	0 50 18.11	1.9978	N. 4 50 25.5	16.443
SATURDAY 18.					MONDAY 20.				
0	23 16 37.45	1.9516	S. 7 39 53.4	15.063	0	0 52 22.32	1.9795	N. 5 6 52.1	16.445
1	23 18 34.56	1.9521	7 24 48.0	15.117	1	0 54 26.81	1.9773	5 23 18.6	16.441
2	23 20 31.70	1.9527	7 9 39.4	15.170	2	0 56 31.60	1.9699	5 39 45.0	16.437
3	23 22 28.88	1.9533	6 54 27.6	15.222	3	0 58 36.68	1.9673	5 56 11.0	16.433
4	23 24 26.10	1.9541	6 39 12.7	15.273	4	1 0 42.06	1.9693	6 12 36.6	16.429
5	23 26 23.37	1.9548	6 23 54.8	15.323	5	1 2 47.75	1.9675	6 29 1.8	16.415
6	23 28 20.68	1.9556	6 8 34.0	15.373	6	1 4 53.76	1.9698	6 45 26.4	16.404
7	23 30 18.04	1.9566	5 53 10.2	15.420	7	1 7 0.09	1.9692	7 1 50.3	16.391
8	23 32 15.47	1.9577	5 37 43.6	15.467	8	1 9 6.74	1.9736	7 18 13.5	16.379
9	23 34 12.97	1.9589	5 22 14.2	15.519	9	1 11 13.72	1.9799	7 34 35.8	16.365
10	23 36 10.54	1.9601	5 6 42.1	15.557	10	1 13 21.04	1.9848	7 50 57.1	16.347
11	23 38 8.18	1.9613	4 51 7.3	15.602	11	1 15 28.70	1.9905	8 7 17.4	16.328
12	23 40 5.90	1.9627	4 35 29.8	15.646	12	1 17 36.70	1.9963	8 23 36.5	16.307
13	23 42 3.70	1.9642	4 19 49.8	15.688	13	1 19 45.06	1.9933	8 39 54.3	16.285
14	23 44 1.60	1.9657	4 4 7.3	15.729	14	1 21 53.78	1.9914	8 56 10.7	16.263
15	23 45 59.59	1.9673	3 48 22.3	15.770	15	1 24 2.87	1.9956	9 12 25.7	16.237
16	23 47 57.68	1.9691	3 32 34.9	15.809	16	1 26 12.33	1.9967	9 28 39.1	16.209
17	23 49 55.88	1.9709	3 16 45.2	15.847	17	1 23 22.16	1.9970	9 44 50.8	16.179
18	23 51 54.19	1.9728	3 0 53.3	15.884	18	1 30 32.37	1.9934	10 1 0.6	16.148
19	23 53 52.62	1.9748	2 44 59.2	15.920	19	1 32 42.97	1.9999	10 17 8.5	16.115
20	23 55 51.17	1.9768	2 29 2.9	15.955	20	1 34 53.96	1.9985	10 33 14.4	16.089
21	23 57 49.84	1.9789	2 13 4.6	15.989	21	1 37 5.35	1.9939	10 49 18.1	16.064
22	23 59 48.64	1.9812	1 57 4.3	16.022	22	1 39 17.15	1.9900	11 5 19.5	16.040
23	0 1 47.59	1.9836	1 41 2.0	16.053	23	1 41 29.35	1.9868	11 21 18.5	16.017
24	0 3 46.68	1.9861	S. 1 24 57.9	16.083	24	1 43 41.96	1.9837	N. 11 37 15.1	15.991

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 21.					THURSDAY 23.				
0	1 ^h 43 ^m 41.96	2.9137	N. 11° 37' 15.1"	15.931	0	3 ^h 39 ^m 11.47	2.6117	N. 22° 50' 39.4"	11.941
1	1 45 54.99	2.9207	11 53 9.0	15.876	1	3 41 48.43	2.6202	23 1 49.2	11.085
2	1 48 8.45	2.9278	12 9 0.2	15.829	2	3 44 25.90	2.6287	23 12 49.6	10.927
3	1 50 22.33	2.9350	12 24 48.5	15.780	3	3 47 3.87	2.6370	23 23 40.4	10.787
4	1 52 36.65	2.9423	12 40 33.8	15.739	4	3 49 42.34	2.6452	23 34 21.6	10.604
5	1 54 51.41	2.9497	12 56 16.0	15.677	5	3 52 21.30	2.6534	23 44 52.9	10.438
6	1 57 6.61	2.9571	13 11 55.0	15.623	6	3 55 0.75	2.6615	23 55 14.2	10.371
7	1 59 22.26	2.9646	13 27 30.6	15.564	7	3 57 40.68	2.6695	24 5 25.4	10.109
8	2 1 38.36	2.9722	13 43 2.7	15.505	8	4 0 21.09	2.6775	24 15 26.4	9.931
9	2 3 54.92	2.9799	13 58 31.2	15.443	9	4 3 1.98	2.6853	24 25 17.1	9.757
10	2 6 11.94	2.9876	14 13 55.9	15.380	10	4 5 43.33	2.6930	24 34 57.2	9.580
11	2 8 29.43	2.9953	14 29 16.8	15.315	11	4 8 25.14	2.7007	24 44 26.7	9.409
12	2 10 47.38	2.3032	14 44 33.7	15.247	12	4 11 7.41	2.7082	24 53 45.5	9.232
13	2 13 5.81	2.3112	14 59 46.4	15.176	13	4 13 50.12	2.7155	25 2 53.4	9.040
14	2 15 24.72	2.3192	15 14 54.8	15.104	14	4 16 33.27	2.7227	25 11 50.3	8.856
15	2 17 44.12	2.3273	15 29 58.9	15.030	15	4 19 16.85	2.7298	25 20 36.1	8.669
16	2 20 4.00	2.3354	15 44 58.4	14.953	16	4 22 0.85	2.7368	25 29 10.6	8.481
17	2 22 24.37	2.3436	15 59 53.2	14.874	17	4 24 45.27	2.7437	25 37 33.8	8.291
18	2 24 45.23	2.3519	16 14 43.3	14.793	18	4 27 30.09	2.7503	25 45 45.5	8.098
19	2 27 6.59	2.3602	16 29 28.4	14.709	19	4 30 15.31	2.7569	25 53 45.6	7.904
20	2 29 28.45	2.3685	16 44 8.4	14.623	20	4 33 0.92	2.7632	26 1 34.0	7.709
21	2 31 50.81	2.3769	16 58 43.1	14.534	21	4 35 46.90	2.7694	26 9 10.7	7.512
22	2 34 13.68	2.3854	17 13 12.5	14.443	22	4 38 33.25	2.7756	26 16 35.5	7.312
23	2 36 37.06	2.3940	N. 17° 27' 36.3"	14.350	23	4 41 19.97	2.7815	N. 26° 23' 48.2"	7.111
WEDNESDAY 22.					FRIDAY 24.				
0	2 39 0.96	2.4026	N. 17° 41' 54.5"	14.255	0	4 44 7.03	2.7872	N. 26° 30' 48.8"	6.908
1	2 41 25.37	2.4112	17 56 6.9	14.157	1	4 46 54.43	2.7927	26 37 37.2	6.704
2	2 43 50.30	2.4197	18 10 13.4	14.057	2	4 49 42.15	2.7980	26 44 13.3	6.499
3	2 46 15.74	2.4284	18 24 13.8	13.954	3	4 52 30.19	2.8032	26 50 37.1	6.292
4	2 48 41.70	2.4371	18 38 7.9	13.849	4	4 55 18.53	2.8089	26 56 48.4	6.083
5	2 51 8.19	2.4458	18 51 55.7	13.742	5	4 58 7.17	2.8130	27 2 47.1	5.872
6	2 53 35.20	2.4546	19 5 37.0	13.632	6	5 0 56.09	2.8175	27 8 33.1	5.661
7	2 56 2.74	2.4633	19 19 11.6	13.520	7	5 3 45.27	2.8218	27 14 6.4	5.449
8	2 58 30.80	2.4721	19 32 39.4	13.405	8	5 6 34.71	2.8260	27 19 27.0	5.236
9	3 0 59.39	2.4809	19 46 0.2	13.288	9	5 9 24.39	2.8299	27 24 34.7	5.021
10	3 3 28.51	2.4897	19 59 14.0	13.169	10	5 12 14.30	2.8336	27 29 29.5	4.805
11	3 5 58.16	2.4985	20 12 20.5	13.047	11	5 15 4.42	2.8371	27 34 11.3	4.588
12	3 8 28.33	2.5073	20 25 19.6	12.923	12	5 17 54.75	2.8404	27 38 40.1	4.371
13	3 10 59.03	2.5162	20 38 11.2	12.796	13	5 20 45.27	2.8434	27 42 55.8	4.152
14	3 13 30.27	2.5250	20 50 55.1	12.666	14	5 23 35.96	2.8462	27 46 58.3	3.931
15	3 16 2.03	2.5338	21 3 31.1	12.534	15	5 26 26.81	2.8487	27 50 47.5	3.710
16	3 18 34.32	2.5426	21 15 59.2	12.401	16	5 29 17.81	2.8511	27 54 23.5	3.490
17	3 21 7.14	2.5513	21 28 19.2	12.264	17	5 32 8.94	2.8532	27 57 46.3	3.269
18	3 23 40.48	2.5601	21 40 30.9	12.125	18	5 35 0.19	2.8550	28 0 55.8	3.047
19	3 26 14.35	2.5688	21 52 34.2	11.983	19	5 37 51.54	2.8566	28 3 51.9	2.824
20	3 28 48.74	2.5775	22 4 28.9	11.839	20	5 40 42.98	2.8580	28 6 34.6	2.600
21	3 31 23.65	2.5862	22 16 14.9	11.693	21	5 43 34.50	2.8598	28 9 3.9	2.377
22	3 33 59.08	2.5947	22 27 52.1	11.545	22	5 46 26.08	2.8600	28 11 19.8	2.152
23	3 36 35.02	2.6032	22 39 20.3	11.394	23	5 49 17.70	2.8606	28 13 22.2	1.926
24	3 39 11.47	2.6117	N. 22° 50' 39.4"	11.241	24	5 52 9.35	2.8609	N. 28° 15' 11.2"	1.704

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 25.					MONDAY 27.				
0	5 52 9.35	2.8608	N.28 15 11.2	1.704	0	8 5 28.63	2.8901	N.25 30 4.8	8.006
1	5 55 1.01	2.8610	28 16 46.7	1.479	1	8 8 5.57	2.8113	25 21 54.1	8.989
2	5 57 52.67	2.8609	28 18 8.7	1.255	2	8 10 41.98	2.6024	25 13 33.6	8.453
3	6 0 44.32	2.8606	28 19 17.3	1.031	3	8 13 17.86	2.5935	25 5 3.3	8.564
4	6 3 35.94	2.8599	28 20 12.4	0.806	4	8 15 53.20	2.5844	24 56 23.5	8.743
5	6 6 27.51	2.8589	28 20 54.0	0.583	5	8 18 27.99	2.5753	24 47 34.2	8.899
6	6 9 19.01	2.8577	28 21 22.2	0.358	6	8 21 2.23	2.5661	24 38 35.6	9.053
7	6 12 10.44	2.8564	28 21 37.0	+ 0.134	7	8 23 35.92	2.5569	24 29 27.8	9.205
8	6 15 1.78	2.8547	28 21 38.3	- 0.089	8	8 26 9.06	2.5477	24 20 11.0	9.355
9	6 17 53.01	2.8528	28 21 26.3	0.319	9	8 28 41.65	2.5385	24 10 45.2	9.503
10	6 20 44.12	2.8507	28 21 0.9	0.534	10	8 31 13.68	2.5293	24 1 10.6	9.648
11	6 23 35.10	2.8484	28 20 22.2	0.756	11	8 33 45.15	2.5199	23 51 27.4	9.798
12	6 26 25.93	2.8457	28 19 30.1	0.978	12	8 36 16.07	2.5106	23 41 35.6	9.933
13	6 29 16.59	2.8428	28 18 24.8	1.198	13	8 38 46.42	2.5019	23 31 35.4	10.073
14	6 32 7.07	2.8397	28 17 6.3	1.418	14	8 41 16.21	2.4918	23 21 26.9	10.210
15	6 34 57.36	2.8364	28 15 34.6	1.637	15	8 43 45.44	2.4824	23 11 10.2	10.345
16	6 37 47.44	2.8328	28 13 49.8	1.855	16	8 46 14.10	2.4730	23 0 45.5	10.477
17	6 40 37.30	2.8291	28 11 51.9	2.073	17	8 48 42.20	2.4636	22 50 13.0	10.607
18	6 43 26.93	2.8251	28 9 41.0	2.289	18	8 51 9.73	2.4543	22 39 32.7	10.736
19	6 46 16.31	2.8208	28 7 17.2	2.505	19	8 53 36.70	2.4448	22 28 44.7	10.868
20	6 49 5.43	2.8163	28 4 40.4	2.720	20	8 56 3.11	2.4354	22 17 49.3	10.995
21	6 51 54.27	2.8117	28 1 50.8	2.933	21	8 58 28.95	2.4260	22 6 46.5	11.107
22	6 54 42.83	2.8068	27 58 48.4	3.145	22	9 0 54.23	2.4167	21 55 36.5	11.227
23	6 57 31.09	2.8017	N.27 55 33.4	3.355	23	9 3 18.95	2.4074	N.21 44 19.3	11.345
SUNDAY 26.					TUESDAY 28.				
0	7 0 19.03	2.7963	N.27 52 5.8	3.564	0	9 5 43.12	2.3981	N.21 32 55.1	11.469
1	7 3 6.65	2.7908	27 48 25.7	3.773	1	9 8 6.73	2.3888	21 21 24.1	11.573
2	7 5 53.93	2.7852	27 44 33.1	3.980	2	9 10 29.78	2.3795	21 9 46.3	11.685
3	7 8 40.87	2.7793	27 40 28.1	4.185	3	9 12 52.27	2.3702	20 58 1.9	11.794
4	7 11 27.45	2.7732	27 36 10.9	4.388	4	9 15 14.21	2.3611	20 46 11.0	11.902
5	7 14 13.65	2.7668	27 31 41.5	4.591	5	9 17 35.60	2.3520	20 34 13.7	12.007
6	7 16 59.47	2.7604	27 27 0.0	4.793	6	9 19 56.45	2.3429	20 22 10.2	12.110
7	7 19 44.90	2.7538	27 22 6.5	4.991	7	9 22 16.75	2.3338	20 10 0.5	12.212
8	7 22 29.93	2.7471	27 17 1.1	5.188	8	9 24 36.50	2.3248	19 57 44.8	12.310
9	7 25 14.55	2.7401	27 11 44.0	5.383	9	9 26 55.72	2.3159	19 45 23.3	12.407
10	7 27 58.74	2.7329	27 6 15.2	5.578	10	9 29 14.41	2.3070	19 32 56.0	12.502
11	7 30 42.50	2.7257	27 0 34.7	5.771	11	9 31 32.56	2.2981	19 20 23.1	12.595
12	7 33 25.83	2.7184	26 54 42.7	5.961	12	9 33 50.18	2.2893	19 7 44.6	12.687
13	7 36 8.71	2.7108	26 48 39.4	6.149	13	9 36 7.27	2.2806	18 55 0.7	12.776
14	7 38 51.13	2.7031	26 42 24.8	6.337	14	9 38 23.85	2.2720	18 42 11.5	12.863
15	7 41 33.08	2.6953	26 35 59.0	6.522	15	9 40 39.91	2.2633	18 29 17.1	12.948
16	7 44 14.56	2.6874	26 29 22.2	6.704	16	9 42 55.45	2.2547	18 16 17.7	13.033
17	7 46 55.57	2.6794	26 22 34.5	6.885	17	9 45 10.48	2.2463	18 3 13.3	13.114
18	7 49 36.09	2.6711	26 15 36.0	7.064	18	9 47 25.01	2.2380	17 50 4.0	13.194
19	7 52 16.12	2.6628	26 8 26.8	7.249	19	9 49 39.04	2.2297	17 36 50.0	13.272
20	7 54 55.64	2.6545	26 1 7.0	7.417	20	9 51 52.57	2.2214	17 23 31.3	13.348
21	7 57 34.66	2.6461	25 53 36.8	7.589	21	9 54 5.60	2.2131	17 10 8.2	13.422
22	8 0 13.17	2.6375	25 45 56.3	7.760	22	9 56 18.14	2.2050	16 56 40.7	13.495
23	8 2 51.16	2.6288	25 38 5.6	7.929	23	9 58 30.20	2.1971	16 43 8.8	13.568
24	8 5 28.63	2.6201	N.25 30 4.8	8.096	24	10 0 41.79	2.1892	N.16 29 32.7	13.635

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
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WEDNESDAY 29.

	^h	^m	^s	[°]	[']	[°]	[']	[°]	[']
0	10	0	41.79	2.1892	N. 16	29	32.7	13.635	
1	10	2	52.90	2.1813	16	15	52.6	13.709	
2	10	5	3.54	2.1734	16	2	8.5	13.768	
3	10	7	13.71	2.1657	15	48	20.4	13.833	
4	10	9	23.42	2.1581	15	34	28.5	13.895	
5	10	11	32.68	2.1506	15	20	33.0	13.955	
6	10	13	41.50	2.1432	15	6	33.9	14.014	
7	10	15	49.87	2.1358	14	52	31.3	14.079	
8	10	17	57.80	2.1285	14	38	25.3	14.138	
9	10	20	5.29	2.1213	14	24	16.0	14.198	
10	10	22	12.36	2.1143	14	10	3.5	14.254	
11	10	24	19.01	2.1073	13	55	47.9	14.305	
12	10	26	25.24	2.1004	13	41	29.3	14.354	
13	10	28	31.06	2.0936	13	27	7.8	14.399	
14	10	30	36.47	2.0868	13	12	43.4	14.439	
15	10	32	41.48	2.0802	12	58	16.3	14.474	
16	10	34	46.10	2.0737	12	43	46.5	14.518	
17	10	36	50.33	2.0672	12	29	14.1	14.560	
18	10	38	54.17	2.0608	12	14	39.3	14.600	
19	10	40	57.63	2.0546	12	0	2.1	14.639	
20	10	43	0.72	2.0485	11	45	22.6	14.677	
21	10	45	3.45	2.0425	11	30	40.8	14.714	
22	10	47	5.82	2.0365	11	15	56.9	14.749	
23	10	49	7.83	2.0306	N. 11	1	10.9	14.784	

THURSDAY 30.

	^h	^m	^s	[°]	[']	[°]	[']	[°]	[']
0	10	51	9.49	2.0248	N. 10	46	23.0	14.814	
1	10	53	10.81	2.0192	10	31	33.2	14.846	
2	10	55	11.79	2.0136	10	16	41.5	14.876	
3	10	57	12.44	2.0081	10	1	48.1	14.904	
4	10	59	12.76	2.0027	9	46	53.0	14.939	
5	11	1	12.76	1.9974	9	31	56.3	14.958	
6	11	3	12.45	1.9922	9	16	58.1	14.969	
7	11	5	11.83	1.9871	9	1	58.5	15.005	
8	11	7	10.90	1.9821	8	46	57.5	15.027	
9	11	9	9.68	1.9772	8	31	55.2	15.048	
10	11	11	8.17	1.9724	8	16	51.7	15.068	
11	11	13	6.37	1.9677	8	1	47.0	15.086	
12	11	15	4.29	1.9631	7	46	41.3	15.103	
13	11	17	1.94	1.9586	7	31	34.6	15.120	
14	11	18	59.32	1.9541	7	16	26.9	15.136	
15	11	20	56.43	1.9497	7	1	18.3	15.150	
16	11	22	53.28	1.9455	6	46	8.9	15.168	
17	11	24	49.89	1.9415	6	30	58.9	15.173	
18	11	26	46.26	1.9375	6	15	48.2	15.183	
19	11	28	42.39	1.9335	6	0	36.9	15.193	
20	11	30	38.28	1.9296	5	45	25.0	15.202	
21	11	32	33.94	1.9258	5	30	12.7	15.209	
22	11	34	29.38	1.9222	5	15	0.0	15.215	
23	11	36	24.61	1.9186	4	50	46.9	15.221	
24	11	38	19.62	1.9151	N. 4	44	33.5	15.225	

FRIDAY, DECEMBER 1.

	^h	^m	^s	[°]	[']	[°]	[']	[°]	[']
0	11	38	19.62	1.9151	N. 4	44	33.5	15.225	

PHASES OF THE MOON.

		^d	^h	^m
● New Moon	. . Nov.	8	0	56.9
☾ First Quarter		16	5	44.6
○ Full Moon		23	6	8.3
☾ Last Quarter		29	21	8.0

		^d	^h
☾ Apogee	 Nov.	11	15.4
☾ Perigee		24	2.0

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	JUPITER	W.	77° 55' 2"	9431	79° 37' 52"	9443	81° 20' 26"	9454	83° 2' 44"	9465
	Aldebaran	W.	68 44 33	9594	70 25 13	9534	72 5 39	9544	73 45 51	9555
	Pollux	W.	24 35 36	9464	26 17 40	9475	27 59 29	9486	29 41 2	9497
	SUN	E.	82 56 47	9789	81 22 5	9801	79 47 39	9815	78 13 30	9826
2	JUPITER	W.	91 30 18	9591	93 11 2	9531	94 51 32	9549	96 31 47	9553
	Aldebaran	W.	82 3 12	9807	83 41 57	9618	85 20 27	9639	86 58 43	9639
	Pollux	W.	38 5 0	9551	39 45 2	9561	41 24 50	9579	43 4 23	9583
	SUN	E.	70 26 47	9888	68 54 13	9901	67 21 55	9919	65 49 51	9924
3	Aldebaran	W.	95 6 31	9891	96 43 23	9709	98 20 0	9713	99 56 23	9722
	Pollux	W.	51 18 33	9834	52 56 42	9844	54 34 37	9854	56 12 19	9863
	SUN	E.	58 13 16	9981	56 42 40	9999	55 12 17	9993	53 42 8	9994
4	Pollux	W.	64 17 36	9710	65 54 2	9730	67 30 15	9739	69 6 17	9738
	Regulus	W.	27 48 0	9747	29 23 37	9753	30 59 7	9759	32 34 29	9765
	SUN	E.	46 14 44	9987	44 45 54	9978	43 17 17	9987	41 48 52	9996
5	Pollux	W.	77 3 33	9781	78 38 26	9788	80 13 9	9797	81 47 41	9805
	Regulus	W.	40 29 11	9799	42 3 40	9806	43 38 0	9814	45 12 10	9821
	SUN	E.	34 29 53	9948	33 2 41	9958	31 35 42	9968	30 8 55	9978
6	Pollux	W.	89 37 45	9845	91 11 15	9858	92 44 35	9869	94 17 45	9888
	Regulus	W.	53 0 42	9856	54 33 57	9864	56 7 2	9871	57 39 58	9876
	SUN	E.	22 58 5	9939	21 32 34	9944	20 7 17	9957	18 42 15	9979
9	SUN	W.	11 5 53	9474	12 26 46	9464	13 47 50	9457	15 9 2	9454
	α Aquilæ	E.	67 51 48	4089	66 40 37	4089	65 29 55	4089	64 19 43	4121
	Fomalhaut	E.	92 55 46	3907	91 29 45	3919	90 3 50	3918	88 38 2	3923
10	SUN	W.	21 55 32	9454	23 16 47	9456	24 38 0	9459	25 59 10	9469
	α Aquilæ	E.	58 37 12	4319	57 30 37	4367	56 24 46	4417	55 19 40	4472
	Fomalhaut	E.	81 30 41	3953	80 5 34	3959	78 40 34	3965	77 15 41	3971
	α Pegasi	E.	102 43 36	3389	101 20 59	3383	99 58 23	3384	98 35 48	3386
11	SUN	W.	32 44 22	9479	34 5 17	9474	35 26 10	9476	36 47 1	9477
	α Aquilæ	E.	50 7 19	4899	49 7 50	4899	48 9 29	4894	47 12 21	5061
	Fomalhaut	E.	70 13 10	3904	68 49 3	3919	67 25 5	3919	66 1 15	3935
	α Pegasi	E.	91 43 20	3394	90 20 57	3396	88 58 36	3399	87 36 18	3401
12	SUN	W.	43 31 1	9480	44 51 48	9480	46 12 35	9480	47 33 22	9478
	Fomalhaut	E.	59 4 18	3967	57 41 24	3978	56 18 40	3986	54 56 8	3996
	α Pegasi	E.	80 45 32	3415	79 23 33	3418	78 1 37	3429	76 39 45	3424
13	SUN	W.	54 17 46	9467	55 38 47	9464	56 59 51	9460	58 21 0	9455
	Fomalhaut	E.	48 6 39	3461	46 45 31	3478	45 24 42	3485	44 4 12	3515
	α Pegasi	E.	69 51 23	3444	68 29 56	3449	67 8 35	3454	65 47 19	3459
14	SUN	W.	65 8 7	9489	66 29 52	9491	67 51 45	9494	69 13 46	9495
	VENUS	W.	19 11 28	3493	20 32 0	3488	21 52 43	3478	23 13 38	3463
	α Pegasi	E.	59 2 39	3493	57 42 7	3509	56 21 45	3519	55 1 34	3522
	α Arietis	E.	99 30 22	3067	98 1 57	3080	96 33 23	3073	95 4 41	3065

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
1	JUPITER W.	84° 44' 46"	2477	86° 26' 32"	2487	88° 8' 3"	2499	89° 49' 16"	2510
	Aldebaran W.	75 25 48	2565	77 5 31	2576	78 44 59	2586	80 24 13	2597
	Pollux W.	31 22 20	2507	33 3 23	2519	34 44 10	2529	36 24 43	2540
	SUN E.	76 39 38	2840	75 6 2	2852	73 32 41	2864	71 59 36	2876
2	JUPITER W.	98 11 47	2563	99 51 33	2574	101 31 4	2584	103 10 21	2594
	Aldebaran W.	88 36 45	2649	90 14 33	2660	91 52 6	2670	93 29 26	2681
	Pollux W.	44 43 41	2593	46 22 45	2604	48 1 35	2614	49 40 11	2624
	SUN E.	64 18 3	2936	62 46 30	2947	61 15 11	2958	59 44 6	2970
3	Aldebaran W.	101 32 33	2733	103 8 29	2744	104 44 11	2753	106 19 40	2764
	Pollux W.	57 49 48	2673	59 27 4	2683	61 4 7	2692	62 40 58	2701
	SUN E.	52 12 13	3025	50 42 31	3035	49 13 2	3046	47 43 46	3057
4	Pollux W.	70 42 7	2746	72 17 46	2755	73 53 13	2763	75 28 29	2772
	Regulus W.	34 9 43	2772	35 44 48	2778	37 19 45	2785	38 54 33	2799
	SUN E.	40 20 40	3108	38 52 40	3118	37 24 52	3128	35 57 16	3138
5	Pollux W.	83 22 3	2813	84 56 14	2821	86 30 15	2829	88 4 5	2837
	Regulus W.	46 46 11	2898	48 20 3	2935	49 53 45	2943	51 27 18	2949
	SUN E.	28 42 20	3188	27 15 57	3199	25 49 47	3209	24 23 49	3221
6	Pollux W.	95 50 45	2875	97 23 36	2883	98 56 17	2890	100 28 49	2898
	Regulus W.	59 12 45	2985	60 45 23	2989	62 17 52	2990	63 50 12	2997
	SUN E.	17 17 29	3286	15 53 1	3303	14 28 53	3322	13 5 7	3342
9	SUN W.	16 30 18	3451	17 51 37	3451	19 12 56	3451	20 34 15	3453
	α Aquilæ E.	63 10 2	4157	62 0 55	4194	60 52 23	4233	59 44 28	4275
	Fomalhaut E.	87 12 20	3229	85 46 45	3235	84 21 17	3241	82 55 56	3246
10	SUN W.	27 20 17	3463	28 41 22	3465	30 2 25	3468	31 23 25	3471
	α Aquilæ E.	54 15 23	4530	53 11 57	4593	52 9 26	4659	51 7 52	4739
	Fomalhaut E.	75 50 56	3277	74 26 18	3284	73 1 48	3290	71 37 25	3297
	α Pegasi E.	97 13 15	3386	95 50 43	3388	94 28 13	3390	93 5 45	3393
11	SUN W.	38 7 51	3479	39 28 39	3479	40 49 27	3480	42 10 14	3480
	α Aquilæ E.	46 16 29	5187	45 21 58	5303	44 28 53	5429	43 37 19	5567
	Fomalhaut E.	64 37 33	3333	63 14 0	3340	61 50 37	3350	60 27 23	3358
	α Pegasi E.	86 14 3	3403	84 51 50	3407	83 29 41	3409	82 7 35	3412
12	SUN W.	48 54 11	3477	50 15 1	3474	51 35 54	3472	52 56 49	3471
	Fomalhaut E.	53 33 47	3406	52 11 39	3419	50 49 44	3432	49 28 4	3446
	α Pegasi E.	75 17 56	3498	73 56 11	3492	72 34 31	3486	71 12 55	3489
13	SUN W.	59 42 14	3451	61 3 33	3446	62 24 58	3440	63 46 29	3434
	Fomalhaut E.	42 44 4	3636	41 24 20	3661	40 5 3	3688	38 46 16	3618
	α Pegasi E.	64 26 9	3465	63 5 6	3471	61 44 9	3478	60 23 20	3485
14	SUN W.	70 35 57	3397	71 58 17	3388	73 20 47	3379	74 43 27	3369
	VENUS W.	24 34 44	3452	25 56 2	3440	27 17 33	3430	28 39 16	3419
	α Pegasi E.	53 41 34	3635	52 21 48	3648	51 2 17	3664	49 43 3	3680
	α Arietis E.	93 35 49	3052	92 6 48	3049	90 37 36	3041	89 8 14	3032

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
15	SUN W.	76° 6' 19"	3359	77° 29' 22"	3348	78° 52' 38"	3337	80° 16' 7"	3325
	VENUS W.	30 1 11	3407	31 23 20	3395	32 45 42	3383	34 8 18	3370
	α Pegasi E.	48 24 7	3599	47 5 32	3621	45 47 20	3646	44 29 35	3673
	α Arietis E.	87 38 41	3023	86 8 57	3013	84 39 0	3003	83 8 51	2992
	JUPITER E.	107 10 16	2940	105 38 48	2931	104 7 8	2920	102 35 15	2909
16	SUN W.	87 17 4	3259	88 42 3	3246	90 7 18	3231	91 32 51	3215
	VENUS W.	41 5 7	3300	42 29 18	3285	43 53 47	3270	45 18 34	3253
	α Arietis E.	75 34 39	2935	74 3 5	2922	72 31 14	2909	70 59 7	2896
	JUPITER E.	94 52 11	2949	93 18 47	2935	91 45 5	2922	90 11 6	2908
	Aldebaran E.	106 4 30	2948	104 33 12	2933	103 1 35	2920	101 29 41	2904
17	SUN W.	98 45 18	3133	100 12 47	3115	101 40 38	3097	103 8 51	3079
	VENUS W.	52 27 22	3168	53 54 10	3150	55 21 19	3131	56 48 51	3112
	α Aquilæ W.	46 17 50	4760	47 17 59	4642	48 19 48	4531	49 23 13	4422
	α Arietis E.	63 14 12	2927	61 40 19	2918	60 6 7	2798	58 31 36	2782
	JUPITER E.	82 16 27	2733	80 40 31	2716	79 4 13	2701	77 27 34	2684
	Aldebaran E.	93 45 15	2926	92 11 21	2909	90 37 5	2792	89 2 27	2775
18	SUN W.	110 35 37	2994	112 6 10	2985	113 37 7	2945	115 8 29	2924
	VENUS W.	64 12 22	3014	65 42 18	2993	67 12 39	2973	68 43 26	2952
	α Aquilæ W.	55 1 55	4001	56 13 34	3929	57 26 24	3862	58 40 22	3799
	α Arietis E.	50 34 8	2709	48 57 40	2695	47 20 53	2681	45 43 48	2667
	JUPITER E.	60 18 34	2597	67 39 35	2579	66 0 11	2561	64 20 22	2543
	Aldebaran E.	81 3 40	2689	79 26 45	2671	77 49 26	2653	76 11 43	2635
19	SUN W.	122 51 47	2923	124 25 45	2902	126 0 10	2789	127 35 1	2763
	VENUS W.	76 23 56	2947	77 57 23	2925	79 31 18	2905	81 5 40	2784
	α Aquilæ W.	65 5 41	3528	66 25 34	3481	67 46 19	3438	69 7 53	3395
	Fomalhaut W.	33 27 37	3192	34 53 56	3114	36 21 49	3043	37 51 8	2986
	JUPITER E.	55 54 56	2451	54 12 34	2433	52 29 46	2414	50 46 31	2396
	Aldebaran E.	67 57 1	2545	66 16 51	2526	64 36 17	2511	62 55 19	2494
	Pollux E.	111 29 50	2479	109 48 7	2459	108 5 56	2440	106 23 18	2420
20	VENUS W.	89 4 22	2680	90 41 29	2660	92 19 3	2640	93 57 4	2621
	α Aquilæ W.	76 7 1	3214	77 32 53	3184	78 59 21	3155	80 26 24	3129
	Fomalhaut W.	45 35 56	2726	47 12 1	2685	48 49 1	2647	50 26 52	2612
	JUPITER E.	42 3 55	2309	40 18 9	2294	38 32 0	2277	36 45 27	2262
	Aldebaran E.	54 24 44	2415	52 41 31	2401	50 57 58	2388	49 14 6	2375
	Pollux E.	97 43 17	2326	95 57 55	2307	94 12 6	2289	92 25 51	2271
21	VENUS W.	102 13 38	2526	103 54 12	2511	105 35 10	2494	107 16 31	2478
	α Aquilæ W.	87 49 9	3019	89 18 58	3002	90 49 8	2986	92 19 36	2976
	Fomalhaut W.	58 47 30	2460	60 29 40	2435	62 12 25	2411	63 55 44	2388
	α Pegasi W.	40 2 44	3023	41 32 28	2950	43 3 44	2882	44 36 26	2821
	Aldebaran E.	40 30 49	2331	38 45 35	2326	37 0 16	2326	35 14 55	2326
	Pollux E.	83 28 4	2186	81 39 16	2170	79 50 4	2156	78 0 30	2141
22	Fomalhaut W.	72 39 54	2324	74 26 3	2279	76 12 34	2264	77 59 26	2251
	α Pegasi W.	52 37 34	2590	54 16 43	2555	55 56 40	2522	57 37 22	2493
	Pollux E.	68 47 16	2075	66 55 38	2064	65 3 43	2053	63 11 32	2043
	Regulus E.	105 27 15	2068	103 35 48	2071	101 44 4	2060	99 52 3	2050

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
15	SUN W.	81° 39' 49"	3313	83° 3' 45"	3300	84° 27' 56"	3288	85° 52' 22"	3274
	VENUS W.	35 31 9	3357	36 54 15	3344	38 17 36	3330	39 41 13	3315
	α Pegasi E.	43 12 19	3705	41 55 37	3741	40 39 33	3729	39 24 12	3697
	α Arietis E.	81 38 28	2981	80 7 52	2970	78 37 2	2959	77 5 58	2947
	JUPITER E.	101 3 8	2989	99 30 46	2887	97 58 10	2875	96 25 19	2969
16	SUN W.	92 58 42	3199	94 24 52	3183	95 51 21	3168	97 18 9	3150
	VENUS W.	46 43 40	3237	48 9 5	3220	49 34 50	3203	51 0 56	3186
	α Arietis E.	69 26 43	2983	67 54 2	2969	66 21 3	2955	64 47 47	2941
	JUPITER E.	88 36 49	2794	87 2 13	2779	85 27 18	2764	83 52 3	2748
	Aldebaran E.	99 57 27	2989	98 24 54	2873	96 52 1	2858	95 18 48	2842
17	SUN W.	104 37 26	3061	106 6 23	3049	107 35 44	3032	109 5 29	3004
	VENUS W.	58 16 46	3093	59 45 4	3073	61 13 46	3054	62 42 52	3034
	α Aquilæ W.	50 28 9	4331	51 34 33	4240	52 42 21	4156	53 51 29	4075
	α Arietis E.	56 56 45	2768	55 21 35	2753	53 46 6	2738	52 10 17	2723
	JUPITER E.	75 50 32	2966	74 13 7	2950	72 35 20	2939	70 57 9	2915
	Aldebaran E.	87 27 27	2759	85 52 5	2741	84 16 20	2734	82 40 12	2706
18	SUN W.	116 40 17	2904	118 12 31	2884	119 45 10	2864	121 18 15	2843
	VENUS W.	70 14 39	2931	71 46 18	2910	73 18 24	2890	74 50 56	2868
	α Aquilæ W.	59 55 25	3739	61 11 31	3682	62 28 37	3628	63 46 41	3576
	α Arietis E.	44 6 24	2955	42 28 43	2949	40 50 45	2930	39 12 31	2920
	JUPITER E.	62 40 8	2924	60 59 28	2906	59 18 23	2887	57 36 52	2870
	Aldebaran E.	74 33 35	2917	72 55 3	2899	71 16 7	2881	69 36 46	2864
19	SUN W.	129 10 18	2749	130 46 2	2732	132 22 12	2703	133 58 48	2684
	VENUS W.	82 40 29	2763	84 15 46	2742	85 51 30	2721	87 27 42	2700
	α Aquilæ W.	70 30 15	3355	71 53 23	3318	73 17 14	3289	74 41 47	3247
	Fomalhaut W.	39 21 46	2920	40 53 39	2906	42 26 41	2816	44 0 48	2769
	JUPITER E.	49 2 51	2978	47 18 45	2960	45 34 13	2943	43 49 16	2926
	Aldebaran E.	61 13 58	2477	59 32 13	2462	57 50 6	2445	56 7 36	2430
	Pollux E.	104 40 12	2401	102 56 39	2389	101 12 39	2364	99 28 12	2344
20	VENUS W.	95 35 31	2901	97 14 25	2883	98 53 44	2864	100 33 29	2846
	α Aquilæ W.	81 53 59	3103	83 22 5	3079	84 50 40	3057	86 19 42	3037
	Fomalhaut W.	52 5 31	2977	53 44 57	2945	55 25 7	2915	57 5 59	2887
	JUPITER E.	34 58 32	2948	33 11 16	2935	31 23 40	2923	29 35 46	2911
	Aldebaran E.	47 29 56	2364	45 45 30	2354	44 0 49	2344	42 15 54	2337
	Pollux E.	90 39 9	2253	88 52 1	2236	87 4 27	2219	85 16 28	2202
21	VENUS W.	108 58 15	2463	110 40 20	2448	112 22 47	2433	114 5 34	2419
	α Aquilæ W.	93 50 19	2965	95 21 16	2956	96 52 24	2950	98 23 40	2945
	Fomalhaut W.	65 39 36	2967	67 23 58	2946	69 8 50	2928	70 54 9	2910
	α Pegasi W.	46 10 26	2766	47 45 38	2716	49 21 57	2670	50 59 17	2628
	Aldebaran E.	33 29 36	2333	31 44 24	2349	29 59 26	2356	28 14 48	2376
	Pollux E.	76 10 33	2127	74 20 15	2113	72 29 35	2099	70 38 35	2087
22	Fomalhaut W.	79 46 37	2239	81 34 6	2229	83 21 50	2220	85 9 48	2211
	α Pegasi W.	59 18 45	2467	61 0 45	2442	62 43 20	2421	64 20 25	2401
	Pollux E.	61 19 5	2034	59 26 24	2025	57 33 29	2017	55 40 22	2011
	Regulus E.	97 59 46	2041	96 7 15	2039	94 14 30	2024	92 21 33	2016

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
23	Fomalhaut W.	86° 57' 59"	9304	88° 46' 20"	9198	90° 34' 50"	9194	92° 23' 27"	9298
	α Pegasi W.	66 9 59	9383	67 53 58	9367	69 38 20	9353	71 23 2	9342
	Pollux E.	53 47 5	9005	51 53 38	1999	50 0 2	1994	48 6 19	1990
	Regulus E.	90 28 24	9010	88 35 5	9005	86 41 38	9000	84 48 3	1996
24	α Pegasi W.	80 10 6	9305	81 55 58	9303	83 41 53	9302	85 27 49	9302
	α Arietis W.	37 0 36	9105	38 51 27	9096	40 42 33	9088	42 33 50	9083
	Pollux E.	38 36 35	1983	36 42 34	1984	34 48 34	1986	32 54 37	1989
	Regulus E.	75 18 59	1987	73 25 5	1988	71 31 12	1990	69 37 22	1993
25	α Arietis W.	51 51 29	9079	53 43 0	9082	55 34 27	9086	57 25 47	9092
	JUPITER W.	33 20 20	9003	35 13 49	9007	37 7 12	9011	39 0 29	9017
	Regulus E.	60 9 33	9016	58 16 24	9023	56 23 26	9031	54 30 40	9039
	SATURN E.	112 42 57	9039	110 50 24	9045	108 58 0	9052	107 5 47	9061
26	α Arietis W.	66 40 2	9130	68 30 15	9140	70 20 13	9151	72 9 55	9163
	JUPITER W.	48 24 17	9057	50 16 23	9068	52 8 12	9079	53 59 44	9090
	Aldebaran W.	36 33 19	9237	38 20 52	9236	40 8 26	9237	41 55 58	9240
	Regulus E.	45 10 28	9099	43 19 17	9105	41 28 25	9118	39 37 53	9132
	SATURN E.	97 48 7	9109	95 57 22	9120	94 6 54	9132	92 16 44	9145
	Spica E.	99 8 52	9077	97 17 18	9089	95 26 2	9101	93 35 4	9113
27	α Arietis W.	81 13 49	9297	83 1 36	9341	84 49 2	9356	86 36 6	9371
	JUPITER W.	63 12 47	9155	65 2 23	9169	66 51 37	9183	68 40 30	9198
	Aldebaran W.	50 51 52	9275	52 38 28	9295	54 24 49	9296	56 10 54	9299
	SATURN E.	83 10 52	9214	81 22 45	9229	79 35 0	9243	77 47 37	9259
	Spica E.	84 25 11	9182	82 36 16	9196	80 47 43	9211	78 59 32	9227
	MARS E.	98 31 1	9387	96 47 7	9401	95 3 34	9417	93 20 24	9433
	SUN E.	127 12 3	9507	125 30 59	9522	123 50 17	9538	122 9 57	9554
28	α Arietis W.	95 25 45	9350	97 10 31	9368	98 54 52	9384	100 38 49	9401
	JUPITER W.	77 39 13	9276	79 25 48	9291	81 12 0	9308	82 57 48	9321
	Aldebaran W.	64 56 46	9375	66 40 57	9389	68 24 48	9403	70 8 18	9419
	SATURN E.	68 56 30	9339	67 11 28	9356	65 26 50	9373	63 42 36	9389
	Spica E.	70 4 25	9307	68 18 35	9329	66 33 8	9339	64 48 5	9355
	MARS E.	84 50 20	9517	83 9 30	9534	81 29 4	9551	79 49 2	9569
	SUN E.	113 53 54	9638	112 15 51	9656	110 38 12	9673	109 0 56	9691
29	JUPITER W.	91 40 53	9405	93 24 20	9422	95 7 23	9439	96 50 3	9455
	Aldebaran W.	78 40 21	9497	80 21 39	9512	82 2 36	9527	83 43 11	9543
	Pollux W.	34 41 24	9440	36 24 2	9456	38 6 17	9473	39 48 9	9488
	SATURN E.	55 7 23	9473	53 25 32	9489	51 44 4	9507	50 3 0	9523
	Spica E.	56 8 48	9438	54 26 7	9455	52 43 50	9471	51 1 56	9488
	MARS E.	71 34 50	9656	69 57 11	9673	68 19 55	9690	66 43 2	9707
	SUN E.	101 0 31	9780	99 25 37	9797	97 51 5	9815	96 16 56	9832
30	Aldebaran W.	92 0 39	9592	93 39 4	9638	95 17 8	9653	96 54 51	9669
	Pollux W.	48 12 0	9566	49 51 42	9581	51 31 3	9596	53 10 4	9611
	SATURN E.	41 43 23	9605	40 4 35	9621	38 26 9	9638	36 48 5	9654
	Spica E.	42 38 8	9567	40 58 28	9583	39 19 10	9599	37 40 13	9613
	MARS E.	58 44 17	9799	57 9 38	9808	55 35 21	9825	54 1 25	9840
	SUN E.	88 31 50	9918	86 59 54	9935	85 28 19	9951	83 57 5	9968

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Diff.	XVh.	P. L. of Diff.	XVIIIh.	P. L. of Diff.	XXIh.	P. L. of Diff.
23	Fomalhaut W.	94° 12' 10"	9188	98° 0' 56"	9187	97° 49' 43"	9187	99° 36' 30"	9188
	α Pegasi W.	73 8 1	9231	74 53 16	9232	76 38 43	9215	78 24 20	9209
	Pollux E.	46 12 29	1987	44 18 35	1985	42 24 37	1984	40 30 37	1989
	Regulus E.	82 54 22	1993	81 0 36	1990	79 6 46	1988	77 12 53	1987
24	α Pegasi W.	87 13 45	9304	88 59 38	9307	90 45 27	9219	92 31 9	9219
	α Arietis W.	44 25 15	9079	46 16 46	9077	48 8 20	9077	49 59 55	9077
	Pollux E.	31 0 45	1992	29 6 58	1997	27 13 19	9009	25 19 48	9009
	Regulus E.	67 43 36	1996	65 49 55	9000	63 56 20	9004	62 2 52	9010
25	α Arietis W.	59 16 59	9098	61 8 2	9105	62 58 54	9119	64 49 35	9121
	JUPITER W.	40 53 37	9093	42 46 35	9030	44 39 22	9039	46 31 56	9047
	Regulus E.	52 38 7	9048	50 45 48	9059	48 53 45	9069	47 1 58	9080
	SATURN E.	105 13 47	9089	103 22 0	9078	101 30 27	9088	99 39 9	9098
26	α Arietis W.	73 59 19	9174	75 48 25	9186	77 37 13	9200	79 25 41	9213
	JUPITER W.	55 50 59	9101	57 41 56	9115	59 32 33	9128	61 22 50	9141
	Aldebaran W.	43 43 26	9245	45 30 47	9250	47 18 0	9258	49 5 2	9266
	Regulus E.	37 47 43	9147	35 57 55	9162	34 8 30	9178	32 19 29	9195
	SATURN E.	90 26 53	9158	88 37 22	9171	86 48 11	9185	84 59 21	9199
	Spica E.	91 44 25	9196	89 54 5	9139	88 4 6	9153	86 14 28	9167
27	α Arietis W.	88 22 48	9287	90 9 7	9309	91 55 3	9318	93 40 36	9335
	JUPITER W.	70 29 0	9213	72 17 8	9229	74 4 53	9244	75 52 15	9260
	Aldebaran W.	57 56 41	9390	59 42 11	9333	61 27 22	9346	63 12 14	9360
	SATURN E.	76 0 37	9274	74 14 0	9290	72 27 46	9307	70 41 56	9323
	Spica E.	77 11 44	9242	75 24 19	9258	73 37 17	9274	71 50 39	9290
	MARS E.	91 37 36	9450	89 55 12	9468	88 13 11	9483	86 31 34	9499
	SUN E.	120 29 59	9570	118 50 23	9587	117 11 10	9604	115 32 20	9621
28	α Arietis W.	102 22 22	9419	104 5 30	9436	105 48 14	9453	107 30 33	9470
	JUPITER W.	84 43 12	9240	86 28 13	9267	88 12 50	9273	89 57 3	9289
	Aldebaran W.	71 51 26	9434	73 34 12	9449	75 16 37	9465	76 58 40	9480
	SATURN E.	61 58 45	9406	60 15 19	9422	58 32 16	9440	56 49 38	9456
	Spica E.	63 3 26	9372	61 19 11	9389	59 35 20	9405	57 51 52	9422
	MARS E.	78 9 24	9586	76 30 10	9603	74 51 19	9621	73 12 53	9638
	SUN E.	107 24 4	9708	105 47 35	9726	104 11 30	9744	102 35 49	9763
29	JUPITER W.	98 32 20	9470	100 14 15	9487	101 55 47	9502	103 36 57	9518
	Aldebaran W.	85 23 24	9559	87 3 15	9574	88 42 45	9591	90 21 53	9607
	Pollux W.	41 29 39	9504	43 10 47	9520	44 51 33	9536	46 31 57	9551
	SATURN E.	48 22 19	9540	46 42 1	9556	45 2 6	9572	43 22 33	9589
	Spica E.	49 20 26	9504	47 39 18	9520	45 58 33	9536	44 18 10	9551
	MARS E.	65 6 32	9725	63 30 24	9741	61 54 40	9759	60 19 18	9775
	SUN E.	94 43 10	9850	93 9 47	9867	91 36 46	9884	90 4 7	9901
30	Aldebaran W.	98 32 14	9684	100 9 16	9698	101 45 58	9713	103 22 20	9728
	Pollux W.	54 48 44	9696	56 27 4	9640	58 5 5	9654	59 42 47	9668
	SATURN E.	35 10 23	9699	33 33 2	9685	31 56 2	9701	30 19 23	9717
	Spica E.	36 1 36	9699	34 23 20	9644	32 45 25	9658	31 7 49	9673
	MARS E.	52 27 49	9856	50 54 34	9872	49 21 39	9887	47 49 3	9902
	SUN E.	82 26 12	9984	80 55 39	9900	79 25 26	9915	77 55 32	9930

AT GREENWICH APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S						Sideral Time of Semi-diameter Passing Meridian.	Equation of Time, to be Subtracted from		Diff. for 1 Hour.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Semi-diameter.	Added to Apparent Time.				
Frid.	1	^h 16 ^m 31 ^s 34.02	^s 10.813	S. 21° 53' 57.6"	-22.80	16' 16.01	^s 70.32	^m 10 ^s 40.24	^s 0.954		
Sat.	2	16 35 53.86	10.840	22 2 52.3	21.75	16 16.15	70.40	10 17.02	0.980		
SUN.	3	16 40 14.33	10.866	22 11 21.5	20.68	16 16.28	70.48	9 53.17	1.006		
Mon.	4	16 44 35.41	10.891	22 19 25.0	-19.60	16 16.42	70.56	9 28.72	1.031		
Tues.	5	16 48 57.08	10.914	22 27 2.4	18.51	16 16.55	70.63	9 3.69	1.055		
Wed.	6	16 53 19.28	10.936	22 34 13.6	17.41	16 16.67	70.71	8 38.10	1.077		
Thur.	7	16 57 42.02	10.957	22 40 58.2	-16.30	16 16.79	70.77	8 12.00	1.098		
Frid.	8	17 2 5.23	10.977	22 47 16.1	15.18	16 16.91	70.84	7 45.41	1.118		
Sat.	9	17 6 28.91	10.995	22 53 7.0	14.05	16 17.03	70.89	7 18.37	1.134		
SUN.	10	17 10 53.01	11.012	22 58 30.7	-12.92	16 17.14	70.95	6 50.90	1.152		
Mon.	11	17 15 17 50	11.027	23 3 27.1	11.78	16 17.25	71.00	6 23.05	1.168		
Tues.	12	17 19 42.34	11.041	23 7 56.0	10.63	16 17.36	71.05	5 54.84	1.182		
Wed.	13	17 24 7.50	11.054	23 11 57.2	-9.47	16 17.46	71.09	5 26.33	1.194		
Thur.	14	17 28 32.95	11.065	23 15 30.5	8.31	16 17.56	71.13	4 57.52	1.206		
Frid.	15	17 32 58.64	11.074	23 18 36.0	7.15	16 17.65	71.16	4 28.46	1.215		
Sat.	16	17 37 24.55	11.083	23 21 13.6	-5.98	16 17.74	71.19	3 59.19	1.223		
SUN.	17	17 41 50.64	11.089	23 23 23.0	4.80	16 17.83	71.22	3 29.74	1.230		
Mon.	18	17 46 16.88	11.095	23 25 4.2	3.63	16 17.90	71.24	3 0.14	1.236		
Tues.	19	17 50 43.24	11.100	23 26 17.3	-2.46	16 17.98	71.25	2 30.42	1.240		
Wed.	20	17 55 9.68	11.103	23 27 2.1	1.28	16 18.04	71.27	2 0.62	1.243		
Thur.	21	17 59 36.18	11.105	23 27 18.7	-0.10	16 18.10	71.27	1 30.76	1.245		
Frid.	22	18 4 2.70	11.105	23 27 7.0	+1.08	16 18.16	71.28	1 0.88	1.245		
Sat.	23	18 8 29.23	11.104	23 26 27.1	2.25	16 18.21	71.27	0 31.00	1.244		
SUN.	24	18 12 55.71	11.102	23 25 18.9	3.43	16 18.25	71.27	0 1.16	1.242		
Mon.	25	18 17 22.13	11.099	23 23 42.5	+4.61	16 18.28	71.26	0 28.63	1.239		
Tues.	26	18 21 48.46	11.094	23 21 37.8	5.78	16 18.31	71.24	0 58.32	1.234		
Wed.	27	18 26 14.65	11.089	23 19 5.1	6.95	16 18.33	71.22	1 27.87	1.228		
Thur.	28	18 30 40.70	11.081	23 16 4.3	+8.12	16 18.35	71.19	1 57.28	1.221		
Frid.	29	18 35 6.56	11.073	23 12 35.4	9.28	16 18.36	71.16	2 26.50	1.213		
Sat.	30	18 39 32.20	11.063	23 8 38.7	10.44	16 18.37	71.13	2 55.50	1.203		
SUN.	31	18 43 57.59	11.052	23 4 14.1	11.60	16 18.37	71.09	3 24.25	1.192		
Mon.	32	18 48 22.70	11.040	S. 22° 59' 21.9	+12.76	16 18.36	71.05	3 52.72	1.180		

NOTE.—The mean time of semidiameter passing may be found by subtracting 0.19 from the sideral time.
 The sign — prefixed to the hourly change of declination indicates that south declinations are increasing;
 the sign + indicates that south declinations are decreasing.

AT GREENWICH MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Equation of Time, to be Added to		Diff. for 1 Hour.	Sidereal Time, or Right Ascension of Mean Sun.
		Apparent Right Ascension.	Diff. for 1 Hour.	Apparent Declination.	Diff. for 1 Hour.	Subtracted from Mean Time.			
Frid.	1	^h 16 ^m 31 ^s 35.94	10.810	S. 21° 54' 1.6"	-22.80	^m 10 ^s 40.07	^s 0.954	^h 16 ^m 42 ^s 16.01	
Sat.	2	16 35 55.72	10.837	22 2 56.0	21.74	10 16.85	0.980	16 46 12.57	
SUN.	3	16 40 16.12	10.863	22 11 24.9	20.67	9 53.01	1.006	16 50 9.13	
Mon.	4	16 44 37.13	10.888	22 19 28.1	-19.59	9 28.56	1.031	16 54 5.69	
Tues.	5	16 48 58.72	10.911	22 27 5.2	18.50	9 3.53	1.054	16 58 2.25	
Wed.	6	16 53 20.85	10.933	22 34 16.1	17.40	8 37.95	1.077	17 1 58.80	
Thur.	7	16 57 43.51	10.954	22 41 0.4	-16.29	8 11.85	1.098	17 5 55.36	
Frid.	8	17 2 6.65	10.974	22 47 18.0	15.17	7 45.27	1.117	17 9 51.92	
Sat.	9	17 6 30.25	10.992	22 53 8.7	14.05	7 18.23	1.135	17 13 48.48	
SUN.	10	17 10 54.27	11.009	22 58 32.2	-12.91	6 50.77	1.152	17 17 45.04	
Mon.	11	17 15 18.67	11.024	23 3 28.3	11.77	6 22.93	1.168	17 21 41.60	
Tues.	12	17 19 43.43	11.038	23 7 57.0	10.62	5 54.73	1.181	17 25 38.16	
Wed.	13	17 24 8.50	11.051	23 11 58.0	- 9.46	5 26.22	1.194	17 29 34.72	
Thur.	14	17 28 33.86	11.062	23 15 31.2	8.30	4 57.42	1.205	17 33 31.28	
Frid.	15	17 32 59.46	11.071	23 18 36.6	7.14	4 28.37	1.215	17 37 27.83	
Sat.	16	17 37 25.28	11.080	23 21 13.9	- 5.97	3 59.11	1.223	17 41 24.39	
SUN.	17	17 41 51.28	11.086	23 23 23.2	4.80	3 29.67	1.230	17 45 20.95	
Mon.	18	17 46 17.43	11.092	23 25 4.4	3.63	3 0.08	1.235	17 49 17.51	
Tues.	19	17 50 43.70	11.096	23 26 17.4	- 2.45	2 30.37	1.240	17 53 14.07	
Wed.	20	17 55 10.05	11.099	23 27 2.2	1.28	2 0.58	1.242	17 57 10.63	
Thur.	21	17 59 36.46	11.101	23 27 18.7	- 0.10	1 30.73	1.244	18 1 7.19	
Frid.	22	18 4 2.89	11.101	23 27 7.0	+ 1.07	1 0.86	1.245	18 5 3.75	
Sat.	23	18 8 29.32	11.100	23 26 27.1	2.25	0 30.99	1.244	18 9 0.31	
SUN.	24	18 12 55.71	11.098	23 25 18.9	3.43	0 1.16	1.242	18 12 56.87	
Mon.	25	18 17 22.04	11.095	23 23 42.5	+ 4.60	0 28.62	1.239	18 16 53.42	
Tues.	26	18 21 48.28	11.090	23 21 38.0	5.78	0 58.30	1.234	18 20 49.98	
Wed.	27	18 26 14.38	11.085	23 19 5.3	6.95	1 27.84	1.228	18 24 46.54	
Thur.	28	18 30 40.34	11.078	23 16 4.6	+ 8.11	1 57.24	1.221	18 28 43.10	
Frid.	29	18 35 6.11	11.069	23 12 35.8	9.28	2 26.45	1.212	18 32 39.66	
Sat.	30	18 39 31.66	11.059	23 8 39.2	10.44	2 55.44	1.203	18 36 36.22	
SUN.	31	18 43 56.96	11.048	23 4 14.8	11.59	3 24.18	1.192	18 40 32.78	
Mon.	32	18 48 21.98	11.036	S. 22 59 22.7	+12.74	3 52.64	1.180	18 44 29.34	

NOTE.—The semidiameter for mean noon may be assumed the same as that for apparent noon.
 The sign — prefixed to the hourly change of declination indicates that south declinations are increasing; the sign + indicates that south declinations are decreasing.

Diff. for 1 Hour,
 +9°.8565.
 (Table III.)

AT GREENWICH MEAN NOON.									
Day of the Month.	Day of the Year.	THE SUN'S					Logarithm of the Radius Vector of the Earth.	Diff. for 1 Hour.	Mean Time of Sidereal Noon.
		TRUE LONGITUDE.		Diff. for 1 Hour.	LATITUDE.				
		λ	λ'						
1	335	249° 34' 29.5	33° 49.1'	152.17	+ 0.11	9.9937222	-26.6	^h 7 ^m 16 ^s 32.28	
2	336	250 35 22.4	34 41.8	152.23	- 0.01	9.9936597	25.7	7 12 36.36	
3	337	251 36 16.7	35 35.9	152.29	0.15	9.9935990	25.0	7 8 40.45	
4	338	252 37 12.2	36 31.2	152.34	- 0.29	9.9935399	-24.3	7 4 44.54	
5	339	253 38 8.9	37 27.7	152.39	0.42	9.9934824	23.6	7 0 48.62	
6	340	254 39 6.7	38 25.3	152.43	0.53	9.9934264	23.0	6 56 52.72	
7	341	255 40 5.7	39 24.1	152.48	- 0.62	9.9933718	-22.5	6 52 56.80	
8	342	256 41 5.7	40 24.0	152.52	0.69	9.9933186	21.9	6 49 0.89	
9	343	257 42 6.6	41 24.7	152.55	0.74	9.9932669	21.2	6 45 4.98	
10	344	258 43 8.2	42 26.1	152.58	- 0.76	9.9932167	-20.6	6 41 9.06	
11	345	259 44 10.5	43 28.2	152.61	0.74	9.9931680	20.0	6 37 13.15	
12	346	260 45 13.4	44 30.9	152.63	0.69	9.9931209	19.3	6 33 17.23	
13	347	261 46 16.8	45 34.1	152.65	- 0.62	9.9930755	-18.5	6 29 21.32	
14	348	262 47 20.7	46 37.8	152.67	0.52	9.9930320	17.7	6 25 25.40	
15	349	263 48 25.0	47 41.9	152.69	0.40	9.9929904	16.9	6 21 29.50	
16	350	264 49 29.6	48 46.3	152.70	- 0.28	9.9929510	-16.0	6 17 33.59	
17	351	265 50 34.5	49 51.0	152.71	- 0.14	9.9929138	15.0	6 13 37.67	
18	352	266 51 39.7	50 56.0	152.72	0.00	9.9928790	14.0	6 9 41.76	
19	353	267 52 45.2	52 1.3	152.73	+ 0.12	9.9928468	-12.9	6 5 45.84	
20	354	268 53 50.9	53 6.8	152.74	0.22	9.9928172	11.8	6 1 49.93	
21	355	269 54 56.9	54 12.6	152.76	0.31	9.9927902	10.6	5 57 54.02	
22	356	270 56 3.2	55 18.7	152.77	+ 0.38	9.9927661	- 9.5	5 53 58.10	
23	357	271 57 9.9	56 25.2	152.79	0.42	9.9927448	8.3	5 50 2.19	
24	358	272 58 16.9	57 32.0	152.80	0.42	9.9927263	7.1	5 46 6.27	
25	359	273 59 24.3	58 39.2	152.82	+ 0.39	9.9927106	- 6.0	5 42 10.37	
26	360	274 60 32.1	59 46.8	152.83	0.33	9.9926977	4.8	5 38 14.46	
27	361	276 1 40.3	0 54.8	152.85	0.25	9.9926876	3.6	5 34 18.54	
28	362	277 2 48.9	2 3.2	152.87	+ 0.15	9.9926802	- 2.6	5 30 22.63	
29	363	278 3 57.9	3 12.0	152.88	+ 0.03	9.9926752	1.6	5 26 26.71	
30	364	279 5 7.3	4 21.2	152.90	- 0.10	9.9926726	- 0.6	5 22 30.80	
31	365	280 6 17.1	5 30.7	152.91	0.23	9.9926723	+ 0.3	5 18 34.89	
32	366	281 7 27.3	6 40.7	152.92	- 0.35	9.9926742	+ 1.2	5 14 38.97	

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0.0.

Diff. for 1 Hour,
— 9.8296,
(Table II.)

NOTE.—The numbers in column λ correspond to the true equinox of the date; in column λ' to the mean equinox of January 0th.

Diff. for 1 Hour,
—9^h.8296,
(Table II.)

GREENWICH MEAN TIME.									
Day of the Month.	THE MOON'S								
	SEMI- DIAMETER.		HORIZONTAL PARALLAX.				UPPER TRANSIT.		AGE.
	Noon.	Midnight.	Noon.	Diff. for 1 Hour.	Midnight.	Diff. for 1 Hour.	Meridian of Greenwich.	Diff. for 1 Hour.	Noon.
1	15' 29.7	15' 23.8	56' 45.4	-1.86	56' 23.7	-1.74	^h 19 ^m 29.6	^m 1.75	^d 23.0
2	15 18.3	15 13.3	56 3.6	1.61	55 45.0	1.48	20 11.4	1.73	24.0
3	15 8.6	15 4.4	55 28.0	1.35	55 12.6	1.22	20 53.3	1.77	25.0
4	15 0.7	14 57.3	54 58.7	-1.09	54 46.4	-0.97	21 36.5	1.84	26.0
5	14 54.3	14 51.7	54 35.5	0.85	54 25.9	0.74	22 21.7	1.93	27.0
6	14 49.5	14 47.6	54 17.7	0.63	54 10.8	0.53	23 9.2	2.03	28.0
7	14 46.1	14 44.9	54 5.1	-0.42	54 0.7	-0.32	23 59.1	2.11	29.0
8	14 44.0	14 43.4	53 57.5	-0.22	53 55.5	-0.11	^δ		0.2
9	14 43.3	14 43.5	53 54.9	0.00	53 55.6	+0.12	0 50.2	2.14	1.2
10	14 44.0	14 45.1	53 57.7	+0.24	54 1.4	+0.37	1 41.6	2.13	2.2
11	14 46.5	14 48.4	54 6.6	0.51	54 13.6	0.65	2 31.8	2.06	3.2
12	14 50.7	14 53.7	54 22.3	0.81	54 33.0	0.97	3 20.2	1.97	4.2
13	14 57.1	15 1.1	54 45.6	+1.14	55 0.3	+1.31	4 6.3	1.88	5.2
14	15 5.7	15 10.8	55 17.1	1.49	55 36.0	1.66	4 50.5	1.81	6.2
15	15 16.5	15 22.7	55 56.9	1.83	56 19.8	1.98	5 33.5	1.78	7.2
16	15 29.5	15 36.6	56 44.6	+2.13	57 10.9	+2.25	6 16.5	1.80	8.2
17	15 44.2	15 51.9	57 38.6	2.34	58 7.1	2.40	7 0.6	1.89	9.2
18	15 59.9	16 7.7	58 36.2	2.42	59 5.1	2.38	7 47.6	2.04	10.2
19	16 15.4	16 22.7	59 33.3	+2.29	60 0.1	+2.14	8 38.7	2.25	11.2
20	16 29.4	16 35.3	60 24.6	1.93	60 46.3	1.66	9 35.8	2.50	12.2
21	16 40.2	16 44.0	61 4.4	1.33	61 18.1	0.95	10 38.8	2.74	13.2
22	16 46.4	16 47.5	61 27.1	+0.54	61 31.0	+0.10	11 46.4	2.87	14.2
23	16 47.1	16 45.3	61 29.5	-0.34	61 22.9	-0.76	12 55.0	2.81	15.2
24	16 42.1	16 37.7	61 11.2	1.16	60 55.0	1.52	14 0.3	2.61	16.2
25	16 32.1	16 25.7	60 34.7	-1.83	60 11.2	-2.07	14 59.9	2.35	17.2
26	16 18.6	16 11.0	59 45.1	2.25	59 17.1	2.38	15 53.5	2.11	18.2
27	16 3.1	15 55.1	58 48.1	2.43	58 18.7	2.44	16 41.9	1.94	19.2
28	15 47.2	15 39.4	57 49.5	-2.40	57 21.1	-2.32	17 26.7	1.82	20.2
29	15 32.0	15 25.0	56 53.8	2.21	56 28.0	2.07	18 9.7	1.77	21.2
30	15 18.5	15 12.5	56 4.1	1.91	55 42.1	1.75	18 52.0	1.77	22.2
31	15 7.1	15 2.2	55 22.2	1.57	55 4.5	1.38	19 34.9	1.81	23.2
32	14 58.0	14 54.4	54 49.0	-1.20	54 35.6	-1.03	20 19.3	1.91	24.2

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 1.					SUNDAY 3.				
0	11 38 19.62	1.9151	N. 4 44 33.5	15.925	0	13 7 57.42	1.8519	S. 7 13 7.2	14.342
1	11 40 14.42	1.9118	4 29 19.9	15.928	1	13 9 48.55	1.8585	7 27 26.6	14.363
2	11 42 9.03	1.9086	4 14 6.1	15.930	2	13 11 39.72	1.8633	7 41 43.6	14.384
3	11 44 3.45	1.9054	3 58 52.3	15.931	3	13 13 30.94	1.8641	7 55 58.3	14.394
4	11 45 57.68	1.9022	3 43 38.4	15.932	4	13 15 22.21	1.8649	8 10 10.5	14.188
5	11 47 51.72	1.8992	3 28 24.5	15.930	5	13 17 13.53	1.8558	8 24 20.2	14.140
6	11 49 45.58	1.8962	3 13 10.8	15.928	6	13 19 4.91	1.8568	8 38 27.3	14.097
7	11 51 39.27	1.8935	2 57 57.2	15.925	7	13 20 56.35	1.8579	8 52 31.8	14.053
8	11 53 32.80	1.8907	2 42 43.8	15.922	8	13 22 47.86	1.8591	9 6 33.7	14.009
9	11 55 26.16	1.8880	2 27 30.6	15.918	9	13 24 39.44	1.8603	9 20 32.9	13.963
10	11 57 19.36	1.8855	2 12 17.7	15.912	10	13 26 31.09	1.8616	9 34 29.3	13.917
11	11 59 12.42	1.8832	1 57 5.2	15.904	11	13 28 22.83	1.8630	9 48 22.9	13.870
12	12 1 5.34	1.8808	1 41 53.2	15.196	12	13 30 14.65	1.8644	10 2 13.7	13.822
13	12 2 58.12	1.8785	1 26 41.7	15.188	13	13 32 6.56	1.8659	10 16 1.6	13.773
14	12 4 50.76	1.8763	1 11 30.7	15.179	14	13 33 58.56	1.8674	10 29 46.5	13.724
15	12 6 43.27	1.8742	0 56 20.2	15.169	15	13 35 50.65	1.8690	10 43 28.5	13.674
16	12 8 35.66	1.8722	0 41 10.4	15.157	16	13 37 42.84	1.8707	10 57 7.4	13.623
17	12 10 27.93	1.8702	0 26 1.3	15.145	17	13 39 35.13	1.8724	11 10 43.2	13.571
18	12 12 20.08	1.8684	N. 0 10 53.0	15.132	18	13 41 27.53	1.8743	11 24 15.9	13.518
19	12 14 12.13	1.8667	S. 0 4 14.5	15.117	19	13 43 20.04	1.8762	11 37 45.4	13.464
20	12 16 4.08	1.8650	0 19 21.1	15.102	20	13 45 12.67	1.8781	11 51 11.6	13.410
21	12 17 55.93	1.8634	0 34 26.8	15.087	21	13 47 5.41	1.8801	12 4 34.6	13.356
22	12 19 47.69	1.8619	0 49 31.5	15.070	22	13 48 58.28	1.8822	12 17 54.3	13.300
23	12 21 39.36	1.8605	S. 1 4 35.2	15.053	23	13 50 51.27	1.8843	S. 12 31 10.6	13.242
SATURDAY 2.					MONDAY 4.				
0	12 23 30.95	1.8592	S. 1 19 37.9	15.036	0	13 52 44.39	1.8864	S. 12 44 23.4	13.184
1	12 25 22.46	1.8579	1 34 39.5	15.018	1	13 54 37.64	1.8887	12 57 32.7	13.136
2	12 27 13.90	1.8568	1 49 39.8	14.995	2	13 56 31.03	1.8910	13 10 38.6	13.088
3	12 29 5.28	1.8558	2 4 38.9	14.974	3	13 58 24.56	1.8933	13 23 40.9	13.038
4	12 30 56.60	1.8548	2 19 36.7	14.952	4	14 0 18.23	1.8957	13 36 39.5	12.947
5	12 32 47.86	1.8538	2 34 33.2	14.930	5	14 2 12.04	1.8981	13 49 34.5	12.896
6	12 34 39.06	1.8530	2 49 28.3	14.906	6	14 4 6.00	1.9006	14 2 25.8	12.842
7	12 36 30.22	1.8523	3 4 21.9	14.882	7	14 6 0.11	1.9032	14 15 13.3	12.780
8	12 38 21.34	1.8517	3 19 14.1	14.857	8	14 7 54.38	1.9058	14 27 57.0	12.696
9	12 40 12.42	1.8511	3 34 4.8	14.831	9	14 9 48.81	1.9085	14 40 36.8	12.631
10	12 42 3.47	1.8506	3 48 53.9	14.804	10	14 11 43.40	1.9112	14 53 12.7	12.565
11	12 43 54.49	1.8501	4 3 41.3	14.777	11	14 13 38.16	1.9140	15 5 44.6	12.499
12	12 45 45.48	1.8498	4 18 27.1	14.748	12	14 15 33.08	1.9168	15 18 12.6	12.432
13	12 47 36.46	1.8496	4 33 11.1	14.719	13	14 17 28.17	1.9197	15 30 36.5	12.363
14	12 49 27.43	1.8494	4 47 53.4	14.689	14	14 19 23.44	1.9226	15 42 56.2	12.294
15	12 51 18.39	1.8493	5 2 33.8	14.658	15	14 21 18.88	1.9255	15 55 11.8	12.224
16	12 53 9.34	1.8493	5 17 12.3	14.626	16	14 23 14.50	1.9285	16 7 23.1	12.153
17	12 55 0.30	1.8493	5 31 48.9	14.594	17	14 25 10.30	1.9315	16 19 30.2	12.082
18	12 56 51.26	1.8494	5 46 23.6	14.561	18	14 27 6.28	1.9346	16 31 33.0	12.010
19	12 58 42.23	1.8497	6 0 56.2	14.526	19	14 29 2.45	1.9377	16 43 31.4	11.937
20	13 0 33.22	1.8500	6 15 26.7	14.491	20	14 30 58.81	1.9409	16 55 25.4	11.863
21	13 2 24.23	1.8503	6 29 55.2	14.456	21	14 32 55.36	1.9442	17 7 14.9	11.788
22	13 4 15.26	1.8507	6 44 21.5	14.419	22	14 34 52.11	1.9474	17 18 59.9	11.713
23	13 6 6.32	1.8513	6 58 45.5	14.381	23	14 36 49.05	1.9507	17 30 40.4	11.637
24	13 7 57.42	1.8519	S. 7 13 7.2	14.342	24	14 38 46.19	1.9540	S. 17 42 16.3	11.559

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
TUESDAY 5.					THURSDAY 7.				
	^h ^m ^s	^s	[°] ['] ["]	["]		^h ^m ^s	^s	[°] ['] ["]	["]
0	14 38 46.19	1.9540	8.17 42 16.3	11.559	0	16 16 48.06	2.1322	8.25 12 0.6	6.867
1	14 40 43.53	1.9574	17 53 47.5	11.480	1	16 18 56.10	2.1358	25 18 49.1	6.750
2	14 42 41.08	1.9608	18 5 13.9	11.401	2	16 21 4.35	2.1393	25 25 30.6	6.632
3	14 44 38.83	1.9642	18 16 35.6	11.322	3	16 23 12.81	2.1427	25 32 5.0	6.514
4	14 46 36.79	1.9677	18 27 52.5	11.241	4	16 25 21.47	2.1460	25 38 32.3	6.395
5	14 48 34.95	1.9711	18 39 4.5	11.159	5	16 27 30.33	2.1493	25 44 52.4	6.275
6	14 50 33.32	1.9746	18 50 11.5	11.076	6	16 29 39.39	2.1526	25 51 5.3	6.155
7	14 52 31.90	1.9789	19 1 13.6	10.993	7	16 31 48.65	2.1559	25 57 11.0	6.034
8	14 54 30.70	1.9818	19 12 10.7	10.909	8	16 33 58.10	2.1592	26 3 9.4	5.919
9	14 56 29.72	1.9855	19 23 2.7	10.824	9	16 36 7.75	2.1624	26 9 0.4	5.789
10	14 58 28.96	1.9891	19 33 49.6	10.738	10	16 38 17.59	2.1655	26 14 44.1	5.666
11	15 0 28.41	1.9927	19 44 31.3	10.651	11	16 40 27.61	2.1686	26 20 20.4	5.543
12	15 2 28.08	1.9964	19 55 7.7	10.564	12	16 42 37.82	2.1717	26 25 49.3	5.419
13	15 4 27.97	2.0001	20 5 38.9	10.476	13	16 44 48.21	2.1746	26 31 10.7	5.294
14	15 6 28.09	2.0038	20 16 4.8	10.387	14	16 46 58.77	2.1775	26 36 24.6	5.169
15	15 8 28.43	2.0076	20 26 25.3	10.297	15	16 49 9.51	2.1804	26 41 31.0	5.043
16	15 10 29.00	2.0113	20 36 40.4	10.206	16	16 51 20.42	2.1833	26 46 29.8	4.917
17	15 12 29.79	2.0151	20 46 50.0	10.113	17	16 53 31.49	2.1859	26 51 21.0	4.790
18	15 14 30.81	2.0189	20 56 54.0	10.020	18	16 55 42.73	2.1886	26 56 4.6	4.662
19	15 16 32.06	2.0227	21 6 52.4	9.927	19	16 57 54.13	2.1912	27 0 40.5	4.534
20	15 18 33.54	2.0265	21 16 45.3	9.834	20	17 0 5.68	2.1938	27 5 8.7	4.406
21	15 20 35.24	2.0303	21 26 32.5	9.738	21	17 2 17.39	2.1964	27 9 29.2	4.277
22	15 22 37.17	2.0342	21 36 13.9	9.642	22	17 4 29.25	2.1988	27 13 41.9	4.147
23	15 24 39.34	2.0381	8.21 45 49.5	9.546	23	17 6 41.25	2.2012	8.27 17 46.8	4.017
WEDNESDAY 6.					FRIDAY 8.				
	^h ^m ^s	^s	[°] ['] ["]	["]		^h ^m ^s	^s	[°] ['] ["]	["]
0	15 26 41.74	2.0419	8.21 55 19.4	9.449	0	17 8 53.39	2.2035	8.27 21 44.0	3.867
1	15 28 44.37	2.0457	22 4 43.4	9.350	1	17 11 5.67	2.2067	27 25 33.3	3.756
2	15 30 47.23	2.0496	22 14 1.4	9.250	2	17 13 18.08	2.2079	27 29 14.7	3.625
3	15 32 50.32	2.0534	22 23 13.4	9.150	3	17 15 30.62	2.2100	27 32 48.3	3.493
4	15 34 53.64	2.0573	22 32 19.4	9.049	4	17 17 43.28	2.2120	27 36 13.9	3.361
5	15 36 57.19	2.0612	22 41 19.3	8.948	5	17 19 56.06	2.2140	27 39 31.6	3.228
6	15 39 0.98	2.0651	22 50 13.2	8.847	6	17 22 8.96	2.2159	27 42 41.3	3.095
7	15 41 5.00	2.0689	22 59 0.9	8.743	7	17 24 21.97	2.2177	27 45 43.0	2.962
8	15 43 9.25	2.0727	23 7 42.3	8.638	8	17 26 35.08	2.2194	27 48 36.7	2.828
9	15 45 13.73	2.0766	23 16 17.5	8.534	9	17 28 48.30	2.2211	27 51 22.4	2.695
10	15 47 18.44	2.0804	23 24 46.4	8.428	10	17 31 1.61	2.2226	27 54 0.1	2.561
11	15 49 23.38	2.0843	23 33 8.9	8.321	11	17 33 15.01	2.2241	27 56 29.7	2.426
12	15 51 28.55	2.0881	23 41 24.9	8.214	12	17 35 28.50	2.2255	27 58 51.2	2.291
13	15 53 33.95	2.0918	23 49 34.5	8.106	13	17 37 42.07	2.2268	28 1 4.6	2.156
14	15 55 39.57	2.0956	23 57 37.6	7.997	14	17 39 55.72	2.2281	28 3 9.9	2.021
15	15 57 45.42	2.0994	24 5 34.1	7.887	15	17 42 9.44	2.2293	28 5 7.1	1.886
16	15 59 51.50	2.1032	24 13 24.0	7.777	16	17 44 23.23	2.2304	28 6 56.2	1.750
17	16 1 57.80	2.1068	24 21 7.3	7.667	17	17 46 37.09	2.2314	28 8 37.1	1.613
18	16 4 4.32	2.1105	24 28 44.0	7.555	18	17 48 51.00	2.2323	28 10 9.8	1.477
19	16 6 11.06	2.1142	24 36 13.9	7.442	19	17 51 4.97	2.2332	28 11 34.3	1.341
20	16 8 18.02	2.1179	24 43 37.0	7.328	20	17 53 18.99	2.2339	28 12 50.7	1.205
21	16 10 25.21	2.1216	24 50 53.2	7.213	21	17 55 33.04	2.2345	28 13 58.9	1.068
22	16 12 32.61	2.1252	24 58 2.6	7.099	22	17 57 47.13	2.2351	28 14 58.9	0.931
23	16 14 40.23	2.1288	25 5 5.1	6.983	23	18 0 1.25	2.2357	28 15 50.7	0.794
24	16 16 48.06	2.1323	8.25 12 0.6	6.867	24	18 2 15.41	2.2361	8.28 16 34.2	0.657

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SATURDAY 9.					MONDAY 11.				
0	18 2 15.41	2.9361	S. 28 16 34.2	0.657	0	19 48 30.46	2.1631	S. 26 12 33.1	5.710
1	18 4 29.59	2.9364	28 17 9.5	0.590	1	19 50 40.15	2.1599	26 6 46.8	5.632
2	18 6 43.78	2.9367	28 17 36.6	0.383	2	19 52 49.65	2.1568	26 0 53.2	5.554
3	18 8 57.99	2.9368	28 17 55.5	0.946	3	19 54 58.97	2.1537	25 54 52.3	6.676
4	18 11 12.20	2.9368	28 18 6.1	- 0.108	4	19 57 8.10	2.1505	25 48 44.1	6.197
5	18 13 26.41	2.9368	28 18 8.5	+ 0.096	5	19 59 17.03	2.1473	25 42 28.7	6.317
6	18 15 40.62	2.9367	28 18 2.7	0.165	6	20 1 25.77	2.1440	25 36 6.0	6.437
7	18 17 54.82	2.9365	28 17 48.7	0.309	7	20 3 34.31	2.1407	25 29 36.2	6.554
8	18 20 9.00	2.9363	28 17 26.5	0.439	8	20 5 42.65	2.1374	25 22 59.3	6.674
9	18 22 23.17	2.9360	28 16 56.1	0.576	9	20 7 50.80	2.1341	25 16 15.3	6.796
10	18 24 37.32	2.9355	28 16 17.4	0.713	10	20 9 58.74	2.1308	25 9 24.2	6.909
11	18 26 51.43	2.9349	28 15 30.5	0.850	11	20 12 6.47	2.1272	25 2 26.2	7.025
12	18 29 5.51	2.9343	28 14 35.4	0.987	12	20 14 14.00	2.1237	24 55 21.2	7.141
13	18 31 19.55	2.9337	28 13 32.1	1.123	13	20 16 21.32	2.1202	24 48 9.3	7.256
14	18 33 33.55	2.9339	28 12 20.6	1.259	14	20 18 28.43	2.1168	24 40 50.5	7.371
15	18 35 47.50	2.9321	28 11 1.0	1.395	15	20 20 35.34	2.1134	24 33 24.8	7.484
16	18 38 1.40	2.9311	28 9 33.2	1.532	16	20 22 42.04	2.1098	24 25 52.4	7.597
17	18 40 15.23	2.9300	28 7 57.2	1.668	17	20 24 48.52	2.1063	24 18 13.2	7.709
18	18 42 29.00	2.9289	28 6 13.0	1.804	18	20 26 54.79	2.1027	24 10 27.3	7.821
19	18 44 42.70	2.9277	28 4 20.7	1.939	19	20 29 0.85	2.0992	24 2 34.7	7.932
20	18 46 56.33	2.9265	28 2 20.3	2.074	20	20 31 6.69	2.0956	23 54 35.5	8.042
21	18 49 9.88	2.9252	28 0 11.8	2.209	21	20 33 12.32	2.0921	23 46 21.7	8.151
22	18 51 23.35	2.9238	27 57 55.2	2.344	22	20 35 17.74	2.0885	23 38 17.4	8.259
23	18 53 36.73	2.9222	S. 27 55 30.5	2.479	23	20 37 22.94	2.0848	S. 23 29 58.6	8.367
SUNDAY 10.					TUESDAY 12.				
0	18 55 50.01	2.9206	S. 27 52 57.7	2.613	0	20 39 27.92	2.0812	S. 23 21 33.3	8.475
1	18 58 3.20	2.9190	27 50 16.9	2.747	1	20 41 32.69	2.0776	23 13 1.6	8.588
2	19 0 16.29	2.9179	27 47 28.1	2.880	2	20 43 37.24	2.0740	23 4 23.5	8.697
3	19 2 29.27	2.9154	27 44 31.3	3.013	3	20 45 41.57	2.0704	22 55 39.1	8.799
4	19 4 42.14	2.9136	27 41 26.5	3.146	4	20 47 45.69	2.0668	22 46 48.4	8.897
5	19 6 54.90	2.9117	27 38 13.7	3.279	5	20 49 49.59	2.0632	22 37 51.5	8.999
6	19 9 7.55	2.9097	27 34 53.0	3.411	6	20 51 53.27	2.0596	22 28 48.4	9.103
7	19 11 20.07	2.9076	27 31 24.4	3.543	7	20 53 56.74	2.0561	22 19 39.1	9.205
8	19 13 32.46	2.9054	27 27 47.9	3.674	8	20 56 0.00	2.0525	22 10 23.8	9.306
9	19 15 44.72	2.9032	27 24 3.5	3.805	9	20 58 3.04	2.0489	22 1 2.4	9.407
10	19 17 56.84	2.9009	27 20 11.3	3.935	10	21 0 5.87	2.0453	21 51 35.0	9.507
11	19 20 8.83	2.1986	27 16 11.3	4.065	11	21 2 8.48	2.0417	21 42 1.6	9.607
12	19 22 20.68	2.1969	27 12 3.5	4.195	12	21 4 10.88	2.0380	21 32 22.2	9.706
13	19 24 32.38	2.1937	27 7 47.9	4.324	13	21 6 13.07	2.0347	21 22 36.9	9.802
14	19 26 43.93	2.1912	27 3 24.6	4.453	14	21 8 15.05	2.0312	21 12 45.9	9.898
15	19 28 55.32	2.1886	26 58 53.6	4.581	15	21 10 16.82	2.0277	21 2 49.1	9.994
16	19 31 6.56	2.1860	26 54 14.9	4.708	16	21 12 18.38	2.0243	20 52 46.6	10.090
17	19 33 17.64	2.1833	26 49 28.6	4.835	17	21 14 19.74	2.0209	20 42 38.3	10.185
18	19 35 28.56	2.1806	26 44 34.7	4.962	18	21 16 20.89	2.0174	20 32 24.3	10.280
19	19 37 39.31	2.1778	26 39 33.2	5.088	19	21 18 21.83	2.0140	20 22 4.7	10.373
20	19 39 49.89	2.1749	26 34 24.2	5.213	20	21 20 22.57	2.0107	20 11 39.6	10.464
21	19 42 0.30	2.1720	26 29 7.6	5.339	21	21 22 23.11	2.0073	20 1 9.0	10.556
22	19 44 10.53	2.1690	26 23 43.5	5.463	22	21 24 23.45	2.0040	19 50 32.9	10.647
23	19 46 20.58	2.1661	26 18 12.0	5.587	23	21 26 23.59	2.0007	19 39 51.4	10.737
24	19 48 30.46	2.1631	S. 26 12 33.1	5.710	24	21 28 23.54	1.9975	S. 19 29 4.5	10.827

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
WEDNESDAY 13.					FRIDAY 15.				
0	21 28 23.54	1.9975	S. 19 29 4.5	10.897	0	23 1 21.33	1.8974	S. 9 20 49.4	14.330
1	21 30 23.29	1.9943	19 18 12.2	10.915	1	23 3 15.16	1.8969	9 6 34.0	14.322
2	21 32 22.85	1.9911	19 7 14.7	11.003	2	23 5 8.96	1.8965	8 52 15.5	14.334
3	21 34 22.22	1.9879	18 56 11.9	11.090	3	23 7 2.74	1.8961	8 37 53.9	14.385
4	21 36 21.40	1.9847	18 45 3.9	11.176	4	23 8 56.49	1.8958	8 23 29.3	14.435
5	21 38 20.39	1.9817	18 33 50.8	11.261	5	23 10 50.23	1.8955	8 9 1.7	14.484
6	21 40 19.20	1.9787	18 22 32.6	11.346	6	23 12 43.95	1.8953	7 54 31.2	14.533
7	21 42 17.83	1.9757	18 11 9.3	11.430	7	23 14 37.66	1.8952	7 39 57.8	14.581
8	21 44 16.28	1.9727	17 59 41.0	11.513	8	23 16 31.38	1.8953	7 25 21.5	14.628
9	21 46 14.55	1.9697	17 48 7.7	11.596	9	23 18 25.10	1.8953	7 10 42.4	14.675
10	21 48 12.65	1.9668	17 36 29.4	11.678	10	23 20 18.82	1.8955	6 56 0.5	14.720
11	21 50 10.57	1.9639	17 24 46.3	11.758	11	23 22 12.56	1.8957	6 41 16.0	14.764
12	21 52 8.32	1.9612	17 12 58.4	11.838	12	23 24 6.31	1.8960	6 26 28.8	14.808
13	21 54 5.91	1.9584	17 1 5.7	11.918	13	23 26 0.08	1.8964	6 11 39.0	14.852
14	21 56 3.33	1.9557	16 49 8.2	11.998	14	23 27 53.88	1.8970	5 56 46.6	14.894
15	21 58 0.59	1.9530	16 37 6.0	12.076	15	23 29 47.72	1.8976	5 41 51.7	14.935
16	21 59 57.69	1.9504	16 24 59.1	12.152	16	23 31 41.59	1.8982	5 26 54.4	14.975
17	22 1 54.64	1.9478	16 12 47.7	12.228	17	23 33 35.50	1.8988	5 11 54.7	15.015
18	22 3 51.43	1.9452	16 0 31.7	12.304	18	23 35 29.45	1.8997	4 56 52.6	15.054
19	22 5 48.07	1.9428	15 48 11.2	12.379	19	23 37 23.46	1.9006	4 41 48.2	15.092
20	22 7 44.57	1.9405	15 35 46.2	12.454	20	23 39 17.52	1.9015	4 26 41.6	15.129
21	22 9 40.93	1.9382	15 23 16.7	12.527	21	23 41 11.64	1.9026	4 11 32.7	15.166
22	22 11 37.15	1.9358	15 10 42.9	12.600	22	23 43 5.83	1.9038	3 56 21.6	15.202
23	22 13 33.23	1.9335	S. 14 58 4.7	12.673	23	23 45 0.10	1.9051	S. 3 41 8.5	15.236
THURSDAY 14.					SATURDAY 16.				
0	22 15 29.17	1.9313	S. 14 45 22.2	12.744	0	23 46 54.44	1.9063	S. 3 25 53.3	15.270
1	22 17 24.99	1.9292	14 32 35.4	12.814	1	23 48 48.86	1.9077	3 10 36.1	15.303
2	22 19 20.68	1.9271	14 19 44.5	12.883	2	23 50 43.37	1.9093	2 55 17.0	15.335
3	22 21 16.24	1.9250	14 6 49.4	12.952	3	23 52 37.98	1.9110	2 39 55.9	15.367
4	22 23 11.68	1.9231	13 53 50.2	13.021	4	23 54 32.69	1.9127	2 24 33.0	15.397
5	22 25 7.01	1.9212	13 40 46.9	13.088	5	23 56 27.50	1.9144	2 9 8.3	15.428
6	22 27 2.23	1.9194	13 27 39.6	13.155	6	23 58 22.41	1.9162	1 53 41.9	15.454
7	22 28 57.34	1.9176	13 14 28.3	13.222	7	0 0 17.44	1.9182	1 38 13.8	15.482
8	22 30 52.34	1.9158	13 1 13.0	13.287	8	0 2 12.59	1.9202	1 22 44.1	15.508
9	22 32 47.24	1.9142	12 47 53.8	13.352	9	0 4 7.87	1.9224	1 7 12.8	15.534
10	22 34 42.05	1.9126	12 34 30.8	13.415	10	0 6 3.28	1.9247	0 51 40.0	15.558
11	22 36 36.76	1.9111	12 21 4.0	13.478	11	0 7 58.83	1.9270	0 36 5.8	15.582
12	22 38 31.38	1.9097	12 7 33.4	13.541	12	0 9 54.52	1.9294	0 20 30.2	15.605
13	22 40 25.92	1.9089	11 53 59.1	13.602	13	0 11 50.36	1.9319	S. 0 4 53.2	15.627
14	22 42 20.37	1.9088	11 40 21.1	13.663	14	0 13 46.35	1.9345	N. 0 10 45.1	15.647
15	22 44 14.74	1.9086	11 26 39.5	13.723	15	0 15 42.50	1.9373	0 26 24.5	15.667
16	22 46 9.04	1.9045	11 12 54.3	13.782	16	0 17 38.82	1.9401	0 42 5.1	15.686
17	22 48 3.28	1.9034	10 59 5.6	13.841	17	0 19 35.31	1.9429	0 57 46.8	15.703
18	22 49 57.45	1.9023	10 45 13.4	13.899	18	0 21 31.97	1.9459	1 13 29.5	15.719
19	22 51 51.56	1.9013	10 31 17.7	13.956	19	0 23 28.81	1.9490	1 29 13.1	15.735
20	22 53 45.61	1.9004	10 17 18.7	14.012	20	0 25 25.85	1.9522	1 44 57.7	15.751
21	22 55 39.61	1.8996	10 3 16.3	14.067	21	0 27 23.08	1.9555	2 0 43.2	15.765
22	22 57 33.56	1.8988	9 49 10.6	14.122	22	0 29 20.51	1.9589	2 16 29.5	15.777
23	22 59 27.47	1.8981	9 35 1.6	14.177	23	0 31 18.15	1.9622	2 32 16.4	15.787
24	23 1 21.33	1.8974	S. 9 20 49.4	14.230	24	0 33 15.99	1.9658	N. 2 48 3.9	15.797

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
SUNDAY 17.					TUESDAY 19.				
0	^h 0 ^m 33 ^s 15.99	1.9658	N. 2° 48' 3.9"	15.797	0	^h 2 ^m 13 ^s 39.84	2.2553	N. 15° 13' 4.4"	14.688
1	0 35 14.05	1.9696	3 3 52.0	15.807	1	2 15 55.41	2.2637	15 27 41.7	14.567
2	0 37 12.34	1.9734	3 19 40.7	15.815	2	2 18 11.49	2.2739	15 42 14.9	14.519
3	0 39 10.86	1.9773	3 35 29.8	15.821	3	2 20 28.07	2.2806	15 56 44.0	14.449
4	0 41 9.62	1.9813	3 51 19.2	15.827	4	2 22 45.16	2.2899	16 11 8.8	14.377
5	0 43 8.62	1.9853	4 7 9.0	15.832	5	2 25 2.77	2.2979	16 25 29.3	14.304
6	0 45 7.86	1.9895	4 22 59.0	15.835	6	2 27 20.91	2.3067	16 39 45.3	14.236
7	0 47 7.36	1.9938	4 38 49.2	15.837	7	2 29 39.57	2.3154	16 53 56.7	14.156
8	0 49 7.12	1.9980	4 54 39.4	15.837	8	2 31 58.76	2.3243	17 8 3.3	14.069
9	0 51 7.14	2.0026	5 10 29.6	15.836	9	2 34 18.49	2.3333	17 22 5.0	13.987
10	0 53 7.43	2.0072	5 26 19.7	15.834	10	2 36 38.76	2.3423	17 36 1.7	13.903
11	0 55 8.00	2.0119	5 42 9.7	15.832	11	2 38 59.57	2.3513	17 49 53.3	13.816
12	0 57 8.86	2.0167	5 57 59.5	15.828	12	2 41 20.92	2.3604	18 3 39.6	13.727
13	0 59 10.01	2.0216	6 13 49.0	15.822	13	2 43 42.82	2.3696	18 17 20.5	13.635
14	1 1 11.45	2.0265	6 29 38.1	15.814	14	2 46 5.28	2.3789	18 30 55.8	13.541
15	1 3 13.19	2.0316	6 45 26.7	15.806	15	2 48 28.29	2.3882	18 44 25.4	13.445
16	1 5 15.24	2.0369	7 1 14.8	15.797	16	2 50 51.86	2.3975	18 57 49.2	13.347
17	1 7 17.61	2.0423	7 17 2.3	15.786	17	2 53 15.99	2.4069	19 11 7.0	13.248
18	1 9 20.30	2.0475	7 32 49.1	15.773	18	2 55 40.69	2.4163	19 24 18.7	13.143
19	1 11 23.31	2.0530	7 48 35.1	15.759	19	2 58 5.95	2.4257	19 37 24.2	13.037
20	1 13 26.66	2.0586	8 4 20.2	15.744	20	3 0 31.78	2.4350	19 50 23.2	12.929
21	1 15 30.35	2.0643	8 20 4.4	15.727	21	3 2 58.18	2.4448	20 3 15.7	12.820
22	1 17 34.38	2.0701	8 35 47.5	15.709	22	3 5 25.16	2.4544	20 16 1.6	12.706
23	1 19 38.76	2.0760	N. 8° 51' 29.5"	15.689	23	3 7 52.71	2.4639	N. 20° 28' 40.6"	12.593
MONDAY 18.					WEDNESDAY 20.				
0	1 21 43.50	2.0820	N. 9° 7' 10.2"	15.667	0	3 10 20.83	2.4735	N. 20° 41' 12.7"	12.475
1	1 23 48.60	2.0881	9 22 49.6	15.645	1	3 12 49.53	2.4839	20 53 37.7	12.356
2	1 25 54.07	2.0943	9 38 27.6	15.621	2	3 15 18.81	2.4928	21 5 55.4	12.233
3	1 27 59.92	2.1007	9 54 4.1	15.595	3	3 17 48.67	2.5025	21 18 5.7	12.109
4	1 30 6.15	2.1071	10 9 39.0	15.568	4	3 20 19.11	2.5131	21 30 8.5	11.982
5	1 32 12.77	2.1136	10 25 12.2	15.539	5	3 22 50.13	2.5217	21 42 3.6	11.852
6	1 34 19.78	2.1202	10 40 43.7	15.508	6	3 25 21.72	2.5313	21 53 50.8	11.720
7	1 36 27.19	2.1269	10 56 13.2	15.475	7	3 27 53.89	2.5410	22 5 30.0	11.585
8	1 38 35.01	2.1337	11 11 40.7	15.442	8	3 30 26.64	2.5507	22 17 1.1	11.450
9	1 40 43.23	2.1405	11 27 6.2	15.406	9	3 32 59.97	2.5603	22 28 24.0	11.311
10	1 42 51.87	2.1476	11 42 29.4	15.368	10	3 35 33.87	2.5698	22 39 38.4	11.169
11	1 45 0.94	2.1547	11 57 50.3	15.329	11	3 38 8.35	2.5794	22 50 44.3	11.025
12	1 47 10.43	2.1618	12 13 8.9	15.289	12	3 40 43.40	2.5889	23 1 41.5	10.879
13	1 49 20.35	2.1691	12 28 25.0	15.246	13	3 43 19.02	2.5984	23 12 29.8	10.730
14	1 51 30.72	2.1766	12 43 38.4	15.201	14	3 45 55.21	2.6079	23 23 9.1	10.578
15	1 53 41.54	2.1841	12 58 49.1	15.155	15	3 48 31.97	2.6173	23 33 39.2	10.424
16	1 55 52.81	2.1917	13 13 57.0	15.107	16	3 51 9.29	2.6266	23 44 0.0	10.268
17	1 58 4.54	2.1993	13 29 1.9	15.057	17	3 53 47.16	2.6358	23 54 11.4	10.110
18	2 0 16.72	2.2069	13 44 3.8	15.005	18	3 56 25.59	2.6451	24 4 13.2	9.949
19	2 2 29.37	2.2147	13 59 2.5	14.951	19	3 59 4.57	2.6543	24 14 5.3	9.786
20	2 4 42.49	2.2227	14 13 57.9	14.895	20	4 1 44.10	2.6633	24 23 47.5	9.620
21	2 6 56.10	2.2306	14 28 49.9	14.837	21	4 4 24.17	2.6723	24 33 19.7	9.452
22	2 9 10.19	2.2389	14 43 38.1	14.778	22	4 7 4.78	2.6819	24 42 41.8	9.281
23	2 11 24.77	2.2471	14 58 23.3	14.717	23	4 9 45.92	2.6900	24 51 53.5	9.108
24	2 13 39.84	2.2553	N. 15° 13' 4.4"	14.653	24	4 12 27.58	2.6987	N. 25° 0' 54.8"	8.934

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
THURSDAY 21.					SATURDAY 23.				
0	4 12 27.58	2.6967	N.25° 0' 54.8"	8.934	0	6 28 50.27	2.8976	N.28° 13' 52.1"	1.336
1	4 15 9.76	2.7073	25 9 45.6	8.757	1	6 31 44.07	2.8967	28 12 25.1	1.565
2	4 17 52.46	2.7158	25 18 25.7	8.578	2	6 34 37.75	2.8935	28 10 44.3	1.794
3	4 20 35.66	2.7249	25 26 54.9	8.396	3	6 37 31.29	2.8911	28 8 49.8	2.039
4	4 23 19.36	2.7324	25 35 13.2	8.219	4	6 40 24.68	2.8883	28 6 41.7	2.249
5	4 26 3.55	2.7406	25 43 20.4	8.096	5	6 43 17.89	2.8853	28 4 19.9	2.476
6	4 28 48.23	2.7486	25 51 16.3	7.838	6	6 46 10.92	2.8822	28 1 44.6	2.701
7	4 31 33.38	2.7564	25 59 0.9	7.648	7	6 49 3.75	2.8787	27 58 55.8	2.936
8	4 34 19.00	2.7642	26 6 34.0	7.456	8	6 51 56.36	2.8750	27 55 53.5	3.149
9	4 37 5.08	2.7718	26 13 55.6	7.269	9	6 54 48.75	2.8711	27 52 37.9	3.379
10	4 39 51.61	2.7792	26 21 5.4	7.065	10	6 57 40.89	2.8668	27 49 8.9	3.594
11	4 42 38.58	2.7863	26 28 3.4	6.867	11	7 0 32.77	2.8624	27 45 26.6	3.814
12	4 45 25.97	2.7933	26 34 49.4	6.666	12	7 3 24.38	2.8577	27 41 31.2	4.033
13	4 48 13.78	2.8003	26 41 23.3	6.464	13	7 6 15.70	2.8528	27 37 22.7	4.251
14	4 51 2.01	2.8071	26 47 45.1	6.261	14	7 9 6.71	2.8476	27 33 1.1	4.468
15	4 53 50.63	2.8136	26 53 54.6	6.055	15	7 11 57.41	2.8423	27 28 26.5	4.684
16	4 56 39.64	2.8199	26 59 51.7	5.847	16	7 14 47.78	2.8367	27 23 39.0	4.897
17	4 59 29.02	2.8261	27 5 36.3	5.639	17	7 17 37.81	2.8309	27 18 38.8	5.108
18	5 2 18.77	2.8321	27 11 8.4	5.429	18	7 20 27.49	2.8249	27 13 26.0	5.318
19	5 5 8.87	2.8378	27 16 27.8	5.217	19	7 23 16.80	2.8187	27 8 0.6	5.528
20	5 7 59.30	2.8433	27 21 34.4	5.003	20	7 26 5.73	2.8123	27 2 22.6	5.737
21	5 10 50.06	2.8486	27 26 28.1	4.788	21	7 28 54.28	2.8057	26 56 32.2	5.943
22	5 13 41.13	2.8537	27 31 8.9	4.571	22	7 31 42.42	2.7989	26 50 29.5	6.146
23	5 16 32.50	2.8586	N.27° 35' 36.6"	4.359	23	7 34 30.15	2.7919	N.26° 44' 14.7"	6.347
FRIDAY 22.					SUNDAY 24.				
0	5 19 24.16	2.8633	N.27° 39' 51.2"	4.139	0	7 37 17.45	2.7848	N.26° 37' 47.8"	6.548
1	5 22 16.09	2.8676	27 43 52.6	3.913	1	7 40 4.32	2.7775	26 31 8.9	6.747
2	5 25 8.27	2.8718	27 47 40.8	3.692	2	7 42 50.75	2.7700	26 24 18.2	6.943
3	5 28 0.70	2.8757	27 51 15.6	3.469	3	7 45 36.72	2.7624	26 17 15.8	7.137
4	5 30 53.36	2.8793	27 54 37.0	3.245	4	7 48 22.23	2.7547	26 10 1.7	7.330
5	5 33 46.22	2.8827	27 57 45.0	3.021	5	7 51 7.28	2.7468	26 2 36.2	7.520
6	5 36 39.28	2.8859	28 0 39.5	2.795	6	7 53 51.84	2.7386	25 54 59.3	7.709
7	5 39 32.53	2.8888	28 3 20.4	2.568	7	7 56 35.91	2.7304	25 47 11.1	7.895
8	5 42 25.94	2.8914	28 5 47.7	2.341	8	7 59 19.49	2.7221	25 39 11.9	8.078
9	5 45 19.50	2.8938	28 8 1.3	2.113	9	8 2 2.56	2.7136	25 31 1.7	8.261
10	5 48 13.20	2.8960	28 10 1.3	1.885	10	8 4 45.12	2.7050	25 22 40.6	8.441
11	5 51 7.02	2.8979	28 11 47.5	1.656	11	8 7 27.16	2.6963	25 14 8.8	8.618
12	5 54 0.95	2.8996	28 13 20.0	1.427	12	8 10 8.68	2.6875	25 5 26.4	8.793
13	5 56 54.97	2.9009	28 14 38.7	1.197	13	8 12 49.66	2.6786	24 56 33.6	8.966
14	5 59 49.05	2.9018	28 15 43.6	0.967	14	8 15 30.11	2.6697	24 47 30.5	9.137
15	6 2 43.19	2.9026	28 16 34.7	0.736	15	8 18 10.02	2.6606	24 38 17.2	9.305
16	6 5 37.37	2.9032	28 17 11.9	0.505	16	8 20 49.38	2.6514	24 28 53.9	9.471
17	6 8 31.57	2.9034	28 17 35.3	0.275	17	8 23 28.18	2.6421	24 19 20.7	9.635
18	6 11 25.78	2.9034	28 17 44.9	+ 0.044	18	8 26 6.43	2.6328	24 9 37.7	9.796
19	6 14 19.98	2.9032	28 17 40.6	- 0.187	19	8 28 44.12	2.6234	23 59 45.1	9.955
20	6 17 14.16	2.9028	28 17 22.5	0.417	20	8 31 21.24	2.6140	23 49 43.1	10.112
21	6 20 8.29	2.9017	28 16 50.6	0.647	21	8 33 57.80	2.6046	23 39 31.7	10.266
22	6 23 2.36	2.9006	28 16 4.9	0.877	22	8 36 33.79	2.5950	23 29 11.2	10.418
23	6 25 56.36	2.8999	28 15 5.4	1.107	23	8 39 9.20	2.5853	23 18 41.6	10.567
24	6 28 50.27	2.8976	N.26° 13' 52.1"	1.336	24	8 41 44.03	2.5757	N.23° 8' 3.1"	10.714

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
MONDAY 25.					WEDNESDAY 27.				
0	^h 8 ^m 41 ^s 44.03	2.5757	N. 23° 8' 3.1	10.714	0	^h 10 ^m 34 ^s 32.74	2.1450	N. 12° 29' 3.9	15.072
1	8 44 18.29	2.5661	22 57 15.9	10.858	1	10 36 41.22	2.1377	12 13 58.4	15.113
2	8 46 51.97	2.5604	22 46 20.1	11.001	2	10 38 49.27	2.1306	11 58 50.4	15.152
3	8 49 25.06	2.5467	22 35 15.8	11.141	3	10 40 56.89	2.1235	11 43 40.1	15.190
4	8 51 57.57	2.5370	22 24 3.2	11.278	4	10 43 4.09	2.1166	11 28 27.6	15.226
5	8 54 20.50	2.5273	22 12 42.5	11.413	5	10 45 10.88	2.1097	11 13 13.0	15.260
6	8 57 0.84	2.5175	22 1 13.7	11.545	6	10 47 17.26	2.1030	10 57 56.4	15.292
7	8 59 31.60	2.5077	21 49 37.1	11.674	7	10 49 23.24	2.0963	10 42 37.9	15.324
8	9 2 1.77	2.4979	21 37 52.8	11.802	8	10 51 28.82	2.0897	10 27 17.5	15.354
9	9 4 31.35	2.4882	21 26 0.8	11.928	9	10 53 34.01	2.0833	10 11 55.4	15.382
10	9 7 0.35	2.4785	21 14 1.4	12.051	10	10 55 38.82	2.0770	9 56 31.7	15.408
11	9 9 28.77	2.4687	21 1 54.7	12.171	11	10 57 43.25	2.0707	9 41 6.5	15.433
12	9 11 56.60	2.4590	20 49 40.9	12.289	12	10 59 47.31	2.0646	9 25 39.8	15.457
13	9 14 23.85	2.4493	20 37 20.1	12.404	13	11 1 51.00	2.0585	9 10 11.7	15.478
14	9 16 50.52	2.4397	20 24 52.4	12.517	14	11 3 54.33	2.0526	8 54 42.4	15.496
15	9 19 16.61	2.4300	20 12 18.0	12.628	15	11 5 57.31	2.0467	8 39 11.9	15.518
16	9 21 42.12	2.4203	19 59 37.0	12.737	16	11 7 59.94	2.0409	8 23 40.3	15.536
17	9 24 7.05	2.4107	19 46 49.6	12.843	17	11 10 2.22	2.0352	8 8 7.6	15.553
18	9 26 31.41	2.4012	19 33 55.8	12.947	18	11 12 4.17	2.0297	7 52 34.0	15.567
19	9 28 55.20	2.3917	19 20 55.9	13.048	19	11 14 5.79	2.0243	7 36 59.6	15.580
20	9 31 18.42	2.3822	19 7 50.0	13.148	20	11 16 7.09	2.0190	7 21 24.4	15.593
21	9 33 41.07	2.3728	18 54 38.1	13.246	21	11 18 8.07	2.0138	7 5 48.5	15.604
22	9 36 3.16	2.3633	18 41 20.5	13.340	22	11 20 8.74	2.0087	6 50 11.9	15.613
23	9 38 24.69	2.3548	N. 18 27 57.3	13.432	23	11 22 9.11	2.0036	N. 6 34 34.9	15.620
TUESDAY 26.					THURSDAY 28.				
0	9 40 45.67	2.3450	N. 18 14 28.7	13.522	0	11 24 9.17	1.9986	N. 6 18 57.5	15.627
1	9 43 6.09	2.3356	18 0 54.7	13.610	1	11 26 8.94	1.9936	6 3 19.7	15.633
2	9 45 25.96	2.3266	17 47 15.5	13.697	2	11 28 8.43	1.9891	5 47 41.5	15.638
3	9 47 45.28	2.3175	17 33 31.1	13.781	3	11 30 7.63	1.9844	5 32 3.1	15.642
4	9 50 4.06	2.3085	17 19 41.8	13.862	4	11 32 6.56	1.9799	5 16 24.5	15.643
5	9 52 22.30	2.2996	17 5 47.7	13.943	5	11 34 5.22	1.9755	5 0 45.9	15.643
6	9 54 40.01	2.2907	16 51 48.8	14.019	6	11 36 3.62	1.9712	4 45 7.3	15.643
7	9 56 57.19	2.2819	16 37 45.4	14.093	7	11 38 1.76	1.9669	4 29 28.7	15.641
8	9 59 13.84	2.2732	16 23 37.6	14.167	8	11 39 59.65	1.9628	4 13 50.3	15.638
9	10 1 29.97	2.2646	16 9 25.4	14.238	9	11 41 57.30	1.9588	3 58 12.1	15.635
10	10 3 45.59	2.2560	15 55 9.0	14.307	10	11 43 54.71	1.9548	3 42 34.1	15.631
11	10 6 0.69	2.2474	15 40 48.5	14.374	11	11 45 51.88	1.9509	3 26 56.4	15.624
12	10 8 15.28	2.2390	15 26 24.1	14.439	12	11 47 48.82	1.9473	3 11 19.2	15.617
13	10 10 29.37	2.2307	15 11 55.8	14.502	13	11 49 45.54	1.9436	2 55 42.4	15.609
14	10 12 42.97	2.2225	14 57 23.8	14.563	14	11 51 42.05	1.9401	2 40 6.1	15.599
15	10 14 56.07	2.2143	14 42 48.2	14.622	15	11 53 38.35	1.9367	2 24 30.5	15.588
16	10 17 8.68	2.2062	14 28 9.1	14.680	16	11 55 34.45	1.9333	2 8 55.5	15.577
17	10 19 20.82	2.1983	14 13 26.6	14.735	17	11 57 30.35	1.9301	1 53 21.2	15.565
18	10 21 32.48	2.1904	13 58 40.9	14.788	18	11 59 26.06	1.9269	1 37 47.7	15.551
19	10 23 43.67	2.1826	13 43 52.0	14.841	19	12 1 21.58	1.9238	1 22 15.1	15.537
20	10 25 54.39	2.1748	13 29 0.0	14.891	20	12 3 16.92	1.9209	1 6 43.3	15.521
21	10 28 4.65	2.1673	13 14 5.1	14.938	21	12 5 12.09	1.9181	0 51 12.5	15.504
22	10 30 14.46	2.1597	12 59 7.4	14.984	22	12 7 7.09	1.9153	0 35 42.8	15.487
23	10 32 23.82	2.1523	12 44 7.0	15.029	23	12 9 1.92	1.9126	0 20 14.1	15.469
24	10 34 32.74	2.1450	N. 12 29 3.9	15.072	24	12 10 56.60	1.9101	N. 0 4 46.5	15.450

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.	Hour.	Right Ascension.	Diff. for 1 Minute.	Declination.	Diff. for 1 Minute.
FRIDAY 29.					SUNDAY 31.				
0	12 10 56.60	1.9101	N. 0° 4' 46.5"	15.450	0	13 41 19.54	1.8873	S. 11° 38' 5.7"	13.539
1	12 12 51.13	1.9076	S. 0 10 39.9	15.429	1	13 43 12.82	1.8887	11 51 35.9	13.474
2	12 14 45.51	1.9051	0 26 5.0	15.407	2	13 45 6.19	1.8902	12 5 2.6	13.415
3	12 16 39.74	1.9026	0 41 28.8	15.385	3	13 46 59.65	1.8917	12 18 25.7	13.355
4	12 18 33.84	1.9007	0 56 51.2	15.362	4	13 48 53.20	1.8934	12 31 45.2	13.294
5	12 20 27.82	1.8986	1 12 12.2	15.338	5	13 50 46.85	1.8951	12 45 1.0	13.232
6	12 22 21.67	1.8965	1 27 31.8	15.313	6	13 52 40.61	1.8968	12 58 13.0	13.169
7	12 24 15.40	1.8946	1 42 49.8	15.287	7	13 54 34.47	1.8986	13 11 21.3	13.106
8	12 26 9.02	1.8927	1 58 6.3	15.261	8	13 56 28.44	1.9005	13 24 25.8	13.043
9	12 28 2.52	1.8908	2 13 21.1	15.233	9	13 58 22.53	1.9024	13 37 26.5	12.979
10	12 29 55.92	1.8892	2 28 34.2	15.204	10	14 0 16.73	1.9043	13 50 23.3	12.914
11	12 31 49.23	1.8877	2 43 45.6	15.176	11	14 2 11.05	1.9064	14 3 16.2	12.848
12	12 33 42.45	1.8862	2 58 55.3	15.146	12	14 4 5.50	1.9086	14 16 5.1	12.781
13	12 35 35.58	1.8848	3 14 3.1	15.114	13	14 6 0.08	1.9107	14 28 49.9	12.714
14	12 37 28.63	1.8835	3 29 9.0	15.082	14	14 7 54.79	1.9129	14 41 30.7	12.646
15	12 39 21.60	1.8823	3 44 12.9	15.049	15	14 9 49.63	1.9152	14 54 7.4	12.577
16	12 41 14.50	1.8812	3 59 14.9	15.016	16	14 11 44.61	1.9175	15 6 40.0	12.507
17	12 43 7.34	1.8801	4 14 14.8	14.982	17	14 13 39.73	1.9199	15 19 8.3	12.437
18	12 45 0.11	1.8790	4 29 12.7	14.947	18	14 15 35.00	1.9224	15 31 32.4	12.366
19	12 46 52.82	1.8782	4 44 8.4	14.910	19	14 17 30.42	1.9249	15 43 52.2	12.294
20	12 48 45.49	1.8775	4 59 1.9	14.873	20	14 19 25.99	1.9274	15 56 7.7	12.222
21	12 50 38.12	1.8768	5 13 53.2	14.836	21	14 21 21.71	1.9300	16 8 18.8	12.148
22	12 52 30.71	1.8762	5 28 42.2	14.797	22	14 23 17.59	1.9327	16 20 25.5	12.074
23	12 54 23.26	1.8756	S. 5 43 28.9	14.758	23	14 25 13.63	1.9354	S. 16 32 27.7	11.999
SATURDAY 30.					MONDAY, JANUARY 1, 1894.				
0	12 56 15.78	1.8751	S. 5 58 13.2	14.718	0	14 27 9.84	1.9381	S. 16 44 25.4	11.923
1	12 58 8.27	1.8747	6 12 55.1	14.677					
2	13 0 0.75	1.8745	6 27 34.5	14.636					
3	13 1 53.21	1.8743	6 42 11.4	14.594					
4	13 3 45.66	1.8741	6 56 45.8	14.551					
5	13 5 38.10	1.8740	7 11 17.5	14.507					
6	13 7 30.54	1.8741	7 25 46.6	14.462					
7	13 9 22.99	1.8742	7 40 13.0	14.417					
8	13 11 15.44	1.8743	7 54 36.6	14.371					
9	13 13 7.90	1.8745	8 8 57.5	14.324					
10	13 15 0.38	1.8746	8 23 15.5	14.276					
11	13 16 52.89	1.8754	8 37 30.6	14.228					
12	13 18 45.43	1.8759	8 51 42.9	14.180					
13	13 20 38.00	1.8764	9 5 52.2	14.129					
14	13 22 30.60	1.8770	9 19 58.4	14.078					
15	13 24 23.24	1.8777	9 34 1.6	14.027					
16	13 26 15.92	1.8785	9 48 1.7	13.976					
17	13 28 8.66	1.8794	10 1 58.7	13.923					
18	13 30 1.45	1.8803	10 15 52.5	13.869					
19	13 31 54.30	1.8813	10 29 43.0	13.815					
20	13 33 47.21	1.8823	10 43 30.3	13.761					
21	13 35 40.18	1.8834	10 57 14.3	13.705					
22	13 37 33.22	1.8847	11 10 54.9	13.648					
23	13 39 26.34	1.8860	11 24 32.0	13.590					
24	13 41 19.54	1.8873	S. 11 38 5.7	13.532					

PHASES OF THE MOON.				
● New Moon	. . . Dec.	d	h	m
☾ First Quarter	. . .	15	22	21.4
○ Full Moon	. . .	22	16	36.6
☾ Last Quarter	. . .	29	11	17.7
☾ Apogee	. . . Dec.	d	h	
☾ Perigee	. . .	22	15.3	

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
1	Pollux W.	61 20 10	2682	62 57 14	2685	64 34 1	2708	66 10 30	2721
	Regulus W.	24 50 45	2722	26 26 56	2732	28 2 54	2741	29 38 39	2750
	SATURN E.	28 43 6	2732	27 7 9	2749	25 31 34	2765	23 56 20	2782
	Spica E.	29 30 33	2687	27 53 36	2702	26 16 59	2716	24 40 41	2732
	MARS E.	46 16 47	2917	44 44 50	2931	43 13 11	2946	41 41 51	2961
	SUN E.	76 25 57	3046	74 56 41	3060	73 27 43	3075	71 59 3	3090
2	Pollux W.	74 8 45	2782	75 43 36	2793	77 18 13	2804	78 52 36	2815
	Regulus W.	37 34 11	2801	39 8 38	2811	40 42 52	2821	42 16 53	2831
	MARS E.	34 9 34	3029	32 39 57	3043	31 10 37	3056	29 41 33	3069
	SUN E.	64 40 1	3158	63 13 1	3170	61 46 16	3183	60 19 47	3195
3	Pollux W.	86 41 5	2865	88 14 9	2874	89 47 1	2883	91 19 42	2892
	Regulus W.	50 3 53	2876	51 36 42	2885	53 9 20	2894	54 41 47	2902
	SUN E.	53 10 53	3253	51 45 47	3264	50 20 53	3275	48 56 12	3285
4	Pollux W.	99 0 25	2931	100 32 4	2939	102 3 33	2946	103 34 54	2953
	Regulus W.	62 21 30	2940	63 52 58	2946	65 24 18	2954	66 55 29	2960
	SUN E.	41 55 45	3335	40 32 14	3345	39 8 54	3354	37 45 45	3363
5	Regulus W.	74 29 26	2990	75 59 51	2995	77 30 10	3001	79 0 22	3005
	Spica W.	20 26 48	2996	21 57 6	3000	23 27 19	3004	24 57 27	3008
	SUN E.	30 52 43	3412	29 30 40	3423	28 8 50	3434	26 47 12	3446
9	SUN W.	13 39 58	3675	14 57 12	3647	16 14 56	3692	17 33 7	3691
	Fomalhaut E.	62 3 23	3348	60 40 7	3356	59 17 0	3365	57 54 3	3374
	α Pegasi E.	83 38 10	3396	82 15 49	3399	80 53 31	3401	79 31 16	3405
10	SUN W.	24 8 37	3536	25 28 21	3529	26 48 13	3592	28 8 13	3515
	Fomalhaut E.	51 2 18	3434	49 40 40	3448	48 19 18	3465	46 58 15	3482
	α Pegasi E.	72 41 0	3434	71 19 11	3429	69 57 27	3434	68 35 49	3439
11	SUN W.	34 49 57	3485	36 10 38	3480	37 31 25	3474	38 52 18	3468
	Fomalhaut E.	40 18 38	3604	39 0 8	3637	37 42 14	3675	36 25 0	3716
	α Pegasi E.	61 49 25	3476	60 28 34	3485	59 7 53	3495	57 47 23	3506
	α Arietis E.	102 35 37	3105	101 7 34	3102	99 39 27	3098	98 11 15	3093
12	SUN W.	45 38 27	3436	47 0 3	3429	48 21 47	3422	49 43 39	3414
	α Pegasi E.	51 8 22	3579	49 49 25	3598	48 30 49	3621	47 12 37	3645
	α Arietis E.	90 48 52	3069	89 20 5	3065	87 51 12	3058	86 22 11	3052
	JUPITER E.	106 59 43	2997	105 29 27	2992	103 59 4	2985	102 28 33	2980
13	SUN W.	56 35 17	3372	57 58 6	3362	59 21 6	3351	60 44 18	3342
	α Arietis E.	78 55 9	3018	77 25 18	3010	75 55 18	3002	74 25 8	2993
	JUPITER E.	94 53 57	2944	93 22 34	2935	91 51 0	2927	90 19 16	2919
	Aldebaran E.	109 28 22	3036	107 58 54	3026	106 29 14	3017	104 59 22	3007
14	SUN W.	67 43 21	3285	69 7 50	3272	70 32 34	3259	71 57 33	3247
	α Aquilæ W.	43 52 43	5160	44 47 35	5025	45 44 11	4809	46 42 27	4753
	α Arietis E.	66 51 34	2948	65 20 16	2939	63 48 46	2928	62 17 3	2918
	JUPITER E.	82 37 39	2869	81 4 41	2858	79 31 28	2847	77 58 1	2835
	Aldebaran E.	97 26 51	2954	95 55 40	2942	94 24 14	2930	92 52 33	2918

GREENWICH MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Name and Direction of Object.	Midnight.	P. L. of Dist.	XVh.	P. L. of Dist.	XVIIIh.	P. L. of Dist.	XXIh.	P. L. of Dist.
1	Pollux W.	67° 46' 42"	2734	69° 22' 37"	2746	70° 58' 16"	2759	72° 33' 38"	2770
	Regulus W.	31 14 12	2760	32 49 32	2771	34 24 38	2781	35 59 31	2791
	SATURN E.	22 21 28	2798	20 46 58	2817	19 12 52	2835	17 39 10	2856
	Spica E.	23 4 43	2746	21 29 4	2760	19 53 44	2774	18 18 42	2788
	MARS E.	40 10 49	2974	38 40 4	2989	37 9 37	3009	35 39 27	3016
	SUN E.	70 30 41	3104	69 2 36	3118	67 34 48	3131	66 7 16	3145
2	Pollux W.	80 26 44	2825	82 0 39	2836	83 34 20	2845	85 7 49	2855
	Regulus W.	43 50 41	2840	45 24 17	2849	46 57 41	2859	48 30 53	2868
	MARS E.	28 12 46	3089	26 44 14	3096	25 15 59	3109	23 48 0	3121
	SUN E.	58 53 32	3208	57 27 32	3219	56 1 45	3231	54 36 12	3249
3	Pollux W.	92 52 11	2900	94 24 30	2909	95 56 38	2916	97 28 36	2924
	Regulus W.	56 14 3	2910	57 46 9	2917	59 18 6	2925	60 49 53	2933
	SUN E.	47 31 43	3295	46 7 26	3306	44 43 21	3315	43 19 27	3325
4	Pollux W.	105 6 6	2959	106 37 10	2965	108 8 6	2979	109 38 54	2977
	Regulus W.	68 26 32	2966	69 57 27	2973	71 28 14	2978	72 58 54	2985
	SUN E.	36 22 46	3372	34 59 58	3383	33 37 22	3393	32 14 57	3402
5	Regulus W.	80 30 28	3011	82 0 27	3015	83 30 21	3020	85 0 9	3024
	Spica W.	26 27 30	3012	27 57 28	3015	29 27 22	3019	30 57 11	3023
	SUN E.	25 25 47	3458	24 4 36	3471	22 43 39	3486	21 22 59	3502
9	SUN W.	18 51 40	3584	20 10 32	3588	21 29 41	3596	22 49 3	3545
	Fomalhaut E.	56 31 17	3385	55 8 43	3395	53 46 21	3407	52 24 12	3420
	α Pegasi E.	78 9 5	3408	76 46 58	3411	75 24 54	3415	74 2 55	3419
10	SUN W.	29 28 20	3508	30 48 34	3503	32 8 55	3497	33 29 23	3491
	Fomalhaut E.	45 37 31	3503	44 17 10	3524	42 57 12	3547	41 37 40	3575
	α Pegasi E.	67 14 17	3446	65 52 52	3453	64 31 35	3460	63 10 26	3467
11	SUN W.	40 13 18	3463	41 34 24	3455	42 55 38	3449	44 16 59	3443
	Fomalhaut E.	35 8 30	3764	33 52 50	3819	32 38 7	3880	31 24 27	3949
	α Pegasi E.	56 27 6	3518	55 7 2	3531	53 47 12	3545	52 27 38	3569
	α Arietis E.	96 42 57	3089	95 14 34	3085	93 46 6	3080	92 17 32	3075
12	SUN W.	51 5 40	3408	52 27 50	3398	53 50 9	3389	55 12 38	3380
	α Pegasi E.	45 54 51	3679	44 37 34	3701	43 20 48	3734	42 4 37	3772
	α Arietis E.	84 53 3	3046	83 23 47	3039	81 54 23	3032	80 24 50	3026
	JUPITER E.	100 57 55	2973	99 27 9	2966	97 56 14	2959	96 25 10	2950
13	SUN W.	62 7 41	3331	63 31 17	3320	64 55 5	3309	66 19 6	3297
	α Arietis E.	72 54 47	2985	71 24 16	2976	69 53 33	2967	68 22 39	2956
	JUPITER E.	88 47 21	2909	87 15 14	2900	85 42 55	2891	84 10 24	2880
	Aldebaran E.	103 29 18	2997	101 59 1	2986	100 28 31	2976	98 57 48	2965
14	SUN W.	73 22 47	2933	74 48 17	2919	76 14 4	2904	77 40 8	2890
	α Aquilæ W.	47 42 17	4676	48 43 37	4574	49 46 24	4481	50 50 33	4394
	α Arietis E.	60 45 7	2907	59 12 57	2897	57 40 34	2886	56 7 57	2875
	JUPITER E.	76 24 19	2923	74 50 21	2911	73 16 7	2798	71 41 37	2785
	Aldebaran E.	91 20 37	2906	89 48 26	2893	88 15 58	2880	86 43 13	2867

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Day of the Month.	Name and Direction of Object.		Noon.	P. L. of Diff.	IIIh.	P. L. of Diff.	VIh.	P. L. of Diff.	IXh.	P. L. of Diff.
15	SUN	W.	79° 6' 29"	3175	80° 33' 8"	3159	82° 0' 6"	3143	83° 27' 23"	3126
	α Aquilæ	W.	51 56 0	4311	53 2 42	4235	54 10 35	4162	55 19 37	4085
	VENUS	W.	32 5 21	3149	33 32 31	3132	35 0 2	3115	36 27 53	3098
	α Arietis	E.	54 35 6	2684	53 2 1	2652	51 28 41	2642	49 55 7	2630
	JUPITER	E.	70 6 50	2772	68 31 46	2758	66 56 23	2744	65 20 42	2730
	Aldebaran	E.	85 10 12	2853	83 36 53	2840	82 3 17	2825	80 29 22	2811
16	SUN	W.	90 48 48	3043	92 18 8	3024	93 47 51	3006	95 17 56	2987
	α Aquilæ	W.	61 20 19	3803	62 35 18	3754	63 51 8	3706	65 7 49	3661
	VENUS	W.	43 52 30	3009	45 22 32	2989	46 52 58	2970	48 23 48	2951
	α Arietis	E.	42 3 42	2777	40 28 44	2768	38 53 34	2759	37 18 12	2752
	JUPITER	E.	57 17 25	2655	55 39 44	2639	54 1 42	2623	52 23 18	2606
	Aldebaran	E.	72 35 4	2737	70 59 13	2722	69 23 2	2707	67 46 31	2691
17	SUN	W.	102 54 16	2692	104 26 45	2673	105 59 39	2653	107 32 58	2633
	α Aquilæ	W.	71 42 44	3462	73 3 51	3427	74 25 37	3393	75 48 1	3361
	VENUS	W.	56 4 7	2652	57 37 27	2632	59 11 13	2611	60 45 26	2591
	Fomalhaut	W.	40 55 48	3030	42 25 23	2981	43 55 59	2935	45 27 33	2891
	JUPITER	E.	44 5 42	2584	42 25 2	2507	40 43 59	2491	39 2 33	2475
	Aldebaran	E.	59 38 40	2612	58 0 2	2598	56 21 4	2583	54 41 45	2567
18	α Aquilæ	W.	82 48 44	3291	84 14 28	3198	85 40 40	3175	87 7 19	3153
	VENUS	W.	68 43 17	2698	70 20 13	2667	71 57 37	2647	73 35 28	2626
	Fomalhaut	W.	53 18 25	2706	54 54 57	2674	56 32 12	2643	58 10 8	2613
	Aldebaran	E.	46 20 13	2500	44 39 0	2489	42 57 31	2479	41 15 48	2470
	Pollux	E.	89 24 56	2384	87 40 59	2366	85 56 35	2347	84 11 44	2329
19	VENUS	W.	81 51 38	2527	83 32 14	2508	85 13 16	2489	86 54 45	2471
	Fomalhaut	W.	66 29 30	2481	68 11 10	2458	69 53 23	2435	71 36 8	2413
	α Pegasi	W.	46 48 53	2648	48 22 18	2798	49 56 49	2750	51 32 22	2707
	Pollux	E.	75 20 48	2238	73 33 17	2220	71 45 20	2204	69 56 58	2186
20	Fomalhaut	W.	80 17 15	2318	82 2 48	2302	83 48 45	2286	85 35 5	2272
	α Pegasi	W.	59 43 35	2527	61 24 10	2498	63 5 26	2471	64 47 20	2446
	Pollux	E.	60 48 55	2108	58 58 8	2094	57 7 0	2080	55 15 30	2067
	Regulus	E.	97 30 15	2113	95 39 36	2096	93 48 34	2085	91 57 11	2072
21	α Pegasi	W.	73 24 58	2345	75 9 52	2330	76 55 8	2315	78 40 45	2303
	α Arietis	W.	29 58 42	2183	31 47 35	2157	33 37 8	2139	35 27 17	2111
	Pollux	E.	45 53 13	2010	43 59 55	2001	42 6 23	1993	40 12 37	1985
	Regulus	E.	82 35 27	2014	80 42 15	2005	78 48 48	1996	76 55 7	1986
22	α Pegasi	W.	87 32 38	2264	89 19 31	2260	91 6 30	2258	92 53 32	2257
	α Arietis	W.	44 44 52	2041	46 37 22	2032	48 30 6	2025	50 23 1	2019
	JUPITER	W.	29 5 24	1970	30 59 45	1963	32 54 17	1958	34 48 58	1953
	Regulus	E.	67 24 1	1960	65 29 24	1957	63 34 42	1955	61 39 57	1954
23	α Arietis	W.	59 49 16	2009	61 42 37	2009	63 35 57	2019	65 29 13	2015
	JUPITER	W.	44 23 35	1948	46 18 32	1950	48 13 25	1953	50 8 13	1957
	Aldebaran	W.	29 53 34	2162	31 42 28	2169	33 31 53	2147	35 21 41	2134
	Regulus	E.	52 6 9	1961	50 11 33	1965	48 17 3	1970	46 22 41	1975
	Spica	E.	106 5 56	1951	104 11 4	1954	102 16 17	1958	100 21 37	1963

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15	SUN	W.	84° 54' 59"	3111	86° 22' 55"	3094	87° 51' 12"	3078	89° 19' 49"	3060
	α Aquilæ	W.	56 29 44	4030	57 40 54	3068	58 53 5	3911	60 6 14	3856
	VENUS	W.	37 56 5	3081	39 24 38	3063	40 53 33	3045	42 22 50	3028
	α Arietis	E.	48 21 18	2819	46 47 15	2808	45 12 58	2798	43 38 27	2787
	JUPITER	E.	63 44 42	2716	62 8 23	2701	60 31 44	2686	58 54 45	2670
	Aldebaran	E.	78 55 9	2797	77 20 37	2782	75 45 46	2767	74 10 35	2752
16	SUN	W.	96 48 25	2989	98 19 17	2950	99 50 32	2931	101 22 12	2912
	α Aquilæ	W.	66 25 18	3617	67 43 34	3576	69 2 34	3536	70 22 18	3498
	VENUS	W.	49 55 2	2931	51 26 41	2912	52 58 44	2892	54 31 13	2873
	α Arietis	E.	35 42 41	2745	34 7 1	2740	32 31 14	2737	30 55 23	2736
	JUPITER	E.	50 44 32	2561	49 5 24	2574	47 25 53	2557	45 45 59	2540
	Aldebaran	E.	66 9 39	2675	64 32 26	2660	62 54 52	2644	61 16 57	2628
17	SUN	W.	109 6 43	2813	110 40 54	2794	112 15 30	2773	113 50 33	2754
	α Aquilæ	W.	77 11 2	3331	78 34 38	3301	79 58 48	3274	81 23 30	3247
	VENUS	W.	62 20 6	2770	63 55 13	2750	65 30 47	2729	67 6 48	2708
	Fomalhaut	W.	47 0 3	2851	48 33 25	2811	50 7 38	2775	51 42 38	2740
	JUPITER	E.	37 20 44	2458	35 38 32	2443	33 55 58	2426	32 13 1	2411
	Aldebaran	E.	53 2 5	2553	51 22 6	2539	49 41 47	2525	48 1 9	2512
18	α Aquilæ	W.	88 34 24	3134	90 1 52	3115	91 29 43	3099	92 57 54	3083
	VENUS	W.	75 13 47	2806	76 52 34	2786	78 31 48	2766	80 11 29	2746
	Fomalhaut	W.	59 48 45	2585	61 28 1	2558	63 7 54	2531	64 48 24	2505
	Aldebaran	E.	39 33 53	2462	37 51 47	2457	36 9 33	2453	34 27 13	2452
	Pollux	E.	82 26 27	2310	80 40 42	2299	78 54 31	2274	77 7 53	2256
19	VENUS	W.	88 36 39	2453	90 18 59	2436	92 1 43	2418	93 44 52	2401
	Fomalhaut	W.	73 19 24	2399	75 3 10	2379	76 47 25	2353	78 32 7	2335
	α Pegasi	W.	53 8 53	2066	54 46 19	2037	56 24 37	2009	58 3 43	2059
	Pollux	E.	63 8 10	2170	66 18 57	2154	64 29 20	2138	62 39 19	2123
20	Fomalhaut	W.	87 21 45	2269	89 8 45	2246	90 56 4	2225	92 43 39	2205
	α Pegasi	W.	66 29 49	2422	68 12 52	2401	69 56 26	2380	71 40 29	2362
	Pollux	E.	53 23 40	2054	51 31 30	2042	49 39 2	2031	47 46 16	2020
	Regulus	E.	90 5 28	2059	88 13 25	2046	86 21 3	2035	84 28 23	2025
21	α Pegasi	W.	80 26 40	2292	82 12 51	2283	83 59 16	2275	85 45 52	2268
	α Arietis	W.	37 17 59	2063	39 9 9	2077	41 0 43	2084	42 52 38	2052
	Pollux	E.	38 18 39	1978	36 24 30	1979	34 30 12	1967	32 35 46	1963
	Regulus	E.	75 1 14	1981	73 7 10	1974	71 12 55	1969	69 18 32	1964
22	α Pegasi	W.	94 40 35	2258	96 27 37	2230	98 14 35	2204	100 1 28	2270
	α Arietis	W.	52 16 6	2015	54 9 17	2011	56 2 34	2009	57 55 54	2008
	JUPITER	W.	36 43 46	1960	38 38 40	1948	40 33 37	1946	42 28 36	1946
	Regulus	E.	59 45 10	1963	57 50 22	1954	55 55 35	1955	54 0 50	1958
23	α Arietis	W.	67 22 24	2019	69 15 28	2025	71 8 23	2031	73 1 9	2038
	JUPITER	W.	52 2 55	1962	53 57 29	1968	55 51 53	1975	57 46 7	1983
	Aldebaran	W.	37 11 48	2196	39 2 8	2190	40 52 37	2116	42 43 12	2115
	Regulus	E.	44 28 28	1969	42 34 26	1990	40 40 36	1999	38 47 0	2008
	Spica	E.	98 27 4	1960	96 32 41	1975	94 38 28	1983	92 44 27	1991

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24	α Arietis	W. 74° 53' 44"	3046	76° 46' 6"	3055	78° 38' 15"	3064	80° 30' 9"	3075
	JUPITER	W. 59 40 8	1991	61 33 56	3000	63 27 30	3010	65 20 48	3021
	Aldebaran	W. 44 33 48	5116	46 24 23	3118	48 14 54	3122	50 5 19	3126
	Spica	E. 90 50 38	3000	88 57 3	3010	87 3 44	3020	85 10 41	3031
	SATURN	E. 91 51 45	3023	89 58 47	3033	88 6 5	3044	86 13 39	3055
25	α Arietis	W. 89 45 12	3138	91 35 13	3153	93 24 51	3169	95 14 6	3184
	JUPITER	W. 74 42 49	3085	76 34 12	3098	78 25 14	3113	80 15 53	3129
	Aldebaran	W. 59 14 41	3172	61 3 50	3184	62 52 41	3197	64 41 13	3210
	Spica	E. 75 50 2	3096	73 58 56	3110	72 8 12	3125	70 17 51	3140
	SATURN	E. 76 56 4	3130	75 5 35	3134	73 15 28	3149	71 25 44	3165
	MARS	E. 108 41 12	3306	106 55 21	3321	105 9 52	3337	103 24 46	3353
26	JUPITER	W. 89 23 0	3319	91 11 9	3331	92 58 51	3348	94 46 7	3367
	Aldebaran	W. 73 38 36	3286	75 24 56	3303	77 10 51	3320	78 56 21	3336
	Pollux	W. 29 38 37	3230	31 26 20	3247	33 13 38	3264	35 0 30	3281
	Spica	E. 61 12 11	3225	59 24 20	3243	57 36 56	3260	55 49 58	3279
	SATURN	E. 62 23 12	3250	60 35 59	3268	58 49 12	3287	57 2 53	3305
	MARS	E. 94 45 20	3441	93 2 43	3459	91 20 32	3478	89 38 48	3497
	Antares	E. 107 5 32	3223	105 17 38	3241	103 30 11	3259	101 43 11	3277
27	Aldebaran	W. 87 37 22	3429	89 20 15	3448	91 2 41	3467	92 44 40	3487
	Pollux	W. 43 48 16	3374	45 32 28	3392	47 16 14	3412	48 59 32	3430
	Spica	E. 47 1 56	3373	45 17 42	3391	43 33 55	3411	41 50 36	3431
	SATURN	E. 48 18 9	3401	46 34 36	3422	44 51 32	3441	43 8 55	3461
	MARS	E. 81 16 56	3506	79 37 56	3516	77 59 23	3537	76 21 18	3557
	Antares	E. 92 54 54	3370	91 10 36	3389	89 26 46	3408	87 43 23	3427
	SUN	E. 120 21 39	3723	118 45 30	3743	117 9 47	3763	115 34 30	3783
28	Pollux	W. 57 29 25	3524	59 10 5	3543	60 50 19	3561	62 30 8	3579
	Regulus	W. 20 59 39	3579	22 39 13	3585	24 18 29	3598	25 57 27	3612
	Spica	E. 33 20 51	3596	31 40 14	3545	30 0 4	3564	28 20 20	3582
	SATURN	E. 34 42 57	3593	33 3 10	3583	31 23 51	3604	29 45 1	3625
	MARS	E. 68 17 38	3757	66 42 14	3777	65 7 16	3797	63 32 44	3817
	Antares	E. 79 13 11	3592	77 32 28	3540	75 52 11	3559	74 12 19	3577
	SUN	E. 107 44 40	3663	106 12 0	3693	104 39 45	3723	103 7 55	3748
29	Pollux	W. 70 43 5	3686	72 20 30	3694	73 57 32	3700	75 34 12	3716
	Regulus	W. 34 7 25	3686	35 44 24	3701	37 21 2	3716	38 57 20	3731
	MARS	E. 55 46 22	3919	54 14 18	3931	52 42 38	3948	51 11 20	3966
	Antares	E. 65 59 8	3685	64 21 41	3681	62 44 36	3696	61 7 54	3714
	SUN	E. 95 34 51	3937	94 5 24	3956	92 36 20	3973	91 7 38	3991
30	Pollux	W. 83 32 18	3792	85 6 56	3807	86 41 15	3821	88 15 16	3834
	Regulus	W. 46 53 59	3803	48 28 23	3817	50 2 29	3830	51 36 18	3844
	MARS	E. 43 40 22	3952	42 11 13	3969	40 42 25	3984	39 13 56	3998
	Antares	E. 53 9 37	3791	51 34 57	3805	50 0 36	3819	48 26 33	3833
	SUN	E. 83 49 22	3175	82 22 43	3190	80 56 22	3205	79 30 19	3220
31	Regulus	W. 59 21 16	3903	60 53 31	3915	62 25 31	3926	63 57 18	3935
	Antares	E. 40 40 30	3904	39 8 4	3906	37 35 53	3916	36 3 55	3927
	SUN	E. 72 24 20	3289	70 59 56	3301	69 35 46	3314	68 11 51	3326

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24	α Arietis W.	82° 21' 46"	9086	84° 13' 6"	9098	86° 4' 8"	9111	87° 54' 51"	9125
	JUPITER W.	67 13 50	9039	69 6 34	9044	70 58 59	9057	72 51 4	9070
	Aldebaran W.	51 55 35	9135	53 45 41	9143	55 35 35	9152	57 25 15	9161
	Spica E.	83 17 55	9043	81 25 28	9055	79 33 19	9068	77 41 30	9081
	SATURN E.	84 21 30	9066	82 29 39	9079	80 38 7	9093	78 46 55	9105
25	α Arietis W.	97 2 58	9200	98 51 25	9217	100 39 27	9235	102 27 3	9252
	JUPITER W.	82 6 8	9145	83 55 59	9161	85 45 25	9178	87 34 25	9195
	Aldebaran W.	66 29 25	9225	68 17 16	9239	70 4 46	9254	71 51 53	9270
	Spica E.	68 27 53	9157	66 38 20	9173	64 49 11	9190	63 0 28	9207
	SATURN E.	69 36 24	9181	67 47 28	9198	65 58 57	9215	64 10 52	9232
	MARS E.	101 40 4	9370	99 55 46	9387	98 11 52	9404	96 28 23	9422
26	JUPITER W.	96 32 55	9285	98 19 16	9304	100 5 10	9323	101 50 36	9342
	Aldebaran W.	80 41 25	9355	82 26 4	9374	84 10 16	9393	85 54 2	9412
	Pollux W.	36 46 57	9300	38 32 57	9318	40 18 30	9337	42 3 36	9355
	Spica E.	54 3 27	9297	52 17 23	9316	50 31 47	9335	48 46 38	9353
	SATURN E.	55 17 1	9394	53 31 36	9343	51 46 39	9369	50 2 10	9393
	MARS E.	87 57 31	9517	86 16 41	9537	84 36 19	9556	82 56 24	9576
	Antares E.	99 56 37	9595	98 10 30	9614	96 24 51	9633	94 39 39	9651
27	Aldebaran W.	94 26 12	9506	96 7 17	9525	97 47 55	9545	99 28 6	9564
	Pollux W.	50 42 24	9449	52 24 49	9468	54 6 47	9487	55 48 19	9505
	Spica E.	40 7 45	9450	38 25 21	9469	36 43 24	9488	35 1 54	9507
	SATURN E.	41 26 47	9481	39 45 7	9509	38 3 56	9521	36 23 12	9542
	MARS E.	74 43 40	9677	73 6 29	9697	71 29 45	9717	69 53 28	9738
	Antares E.	86 0 27	9446	84 17 58	9465	82 35 56	9484	80 54 20	9503
	SUN E.	113 59 40	9803	112 25 16	9823	110 51 18	9843	109 17 46	9863
28	Pollux W.	64 9 32	9597	65 48 31	9615	67 27 6	9632	69 5 17	9649
	Regulus W.	27 36 6	9596	29 14 26	9610	30 52 26	9655	32 30 6	9671
	Spica E.	26 41 2	9603	25 2 10	9621	23 23 44	9640	21 45 43	9658
	SATURN E.	28 6 40	9646	26 28 48	9668	24 51 25	9690	23 14 32	9712
	MARS E.	61 58 38	9836	60 24 57	9855	58 51 41	9874	57 18 49	9894
	Antares E.	72 32 52	9595	70 53 50	9619	69 15 12	9630	67 36 58	9648
	SUN E.	101 36 30	9902	100 5 29	9921	98 34 53	9940	97 4 40	9959
29	Pollux W.	77 10 31	9732	78 46 28	9747	80 22 5	9763	81 57 21	9778
	Regulus W.	40 33 19	9746	42 8 58	9761	43 44 17	9775	45 19 17	9789
	MARS E.	49 40 25	9984	48 9 52	3001	46 39 41	3018	45 9 51	3035
	Antares E.	59 31 33	9731	57 55 34	9746	56 19 55	9761	54 44 36	9776
	SUN E.	89 39 17	3109	88 11 18	3125	86 43 39	3143	85 16 21	3158
30	Pollux W.	89 49 0	9847	91 22 27	9860	92 55 37	9873	94 28 31	9884
	Regulus W.	53 9 49	9856	54 43 4	9869	56 16 3	9880	57 48 47	9892
	MARS E.	37 45 47	3116	36 17 57	3132	34 50 26	3147	33 23 13	3163
	Antares E.	46 52 48	9845	45 19 19	9859	43 46 7	9871	42 13 11	9883
	SUN E.	78 4 34	3235	76 39 6	3249	75 13 55	3263	73 49 0	3276
31	Regulus W.	65 28 52	9946	67 0 13	9954	68 31 23	9964	70 2 21	9972
	Antares E.	34 32 11	9938	33 0 40	9947	31 29 21	9957	29 58 14	9965
	SUN E.	66 48 9	3338	65 24 41	3348	64 1 25	3359	62 38 22	3368

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		
1	17 11 17.82	+10.854	-21 10 4.8	-34.54	22 26.3	1	20 19 17.19	+17.018	-21 27 23.7	+46.53	23 34.4		
2	17 15 45.26	11.494	21 23 50.4	34.90	22 27.0	2	20 26 6.13	17.000	21 8 4.3	50.09	23 37.3		
3	17 20 25.71	11.938	21 37 23.5	33.51	22 28.0	3	20 32 56.03	17.000	20 47 19.3	53.67	23 40.2		
4	17 25 17.90	12.403	21 50 36.5	33.52	22 29.1	4	20 39 46.84	17.135	20 25 8.1	57.97	23 43.2		
5	17 30 20.71	12.895	22 3 22.3	31.25	22 30.4	5	20 46 38.48	17.168	20 1 30.4	60.66	23 46.1		
6	17 35 33.17	+13.208	-22 15 34.8	-29.75	22 31.8	6	20 53 30.90	+17.199	-19 36 25.9	+64.50	23 49.1		
7	17 40 54.39	13.556	22 27 8.7	28.04	22 33.3	7	21 0 24.03	17.233	19 9 54.2	68.14	23 52.0		
8	17 46 23.59	13.873	22 37 59.2	26.14	22 34.9	8	21 7 17.84	17.265	18 41 55.3	71.78	23 55.0		
9	17 52 0.07	14.163	22 48 1.9	24.04	22 36.7	9	21 14 12.28	17.281	18 12 29.0	75.43	23 58.0		
10	17 57 43.21	14.439	22 57 13.0	21.82	22 38.6	10	21 21 7.31	17.305	17 41 34.8	79.08			
11	18 3 32.47	+14.679	-23 5 29.2	-19.48	22 40.5	11	21 28 2.90	+17.327	-17 9 13.0	+82.73	0 1.0		
12	18 9 27.33	14.896	23 12 47.2	17.00	22 42.6	12	21 34 59.00	17.348	16 35 24.0	86.37	0 4.0		
13	18 15 27.33	15.101	23 19 4.3	14.41	22 44.7	13	21 41 55.56	17.365	16 0 7.6	90.00	0 7.0		
14	18 21 32.06	15.290	23 24 18.0	11.72	22 46.9	14	21 48 52.53	17.382	15 23 24.2	93.61	0 10.0		
15	18 27 41.13	15.465	23 28 26.1	8.94	22 49.2	15	21 55 49.87	17.396	14 45 14.7	97.19	0 13.0		
16	18 33 54.24	+15.636	-23 31 26.6	-6.08	22 51.6	16	22 2 47.51	+17.407	-14 5 39.5	+100.74	0 16.0		
17	18 40 11.05	15.774	23 33 17.5	3.15	22 54.0	17	22 9 45.37	17.414	13 24 39.8	104.94	0 19.1		
18	18 46 31.26	15.910	23 33 57.2	-0.15	22 56.4	18	22 16 43.36	17.417	12 42 16.7	107.67	0 22.1		
19	18 52 54.63	16.036	23 33 24.2	+2.91	22 58.9	19	22 23 41.34	17.414	11 58 32.0	111.04	0 25.1		
20	18 59 20.93	16.153	23 31 37.1	0.09	23 1.4	20	22 30 39.15	17.403	11 13 27.8	114.30	0 28.1		
21	19 5 49.91	+16.261	-23 28 34.6	+9.19	23 4.0	21	22 37 36.62	+17.384	-10 27 6.8	+117.44	0 31.2		
22	19 12 21.38	16.360	23 24 15.4	12.41	23 6.7	22	22 44 33.50	17.354	9 39 32.0	120.45	0 34.2		
23	19 18 55.14	16.452	23 18 38.5	15.67	23 9.3	23	22 51 29.51	17.311	8 50 46.6	123.20	0 37.2		
24	19 25 31.02	16.537	23 11 42.8	18.97	23 12.0	24	22 58 24.30	17.251	8 0 55.5	125.92	0 40.1		
25	19 32 8.85	16.615	23 3 27.5	22.31	23 14.7	25	23 5 17.41	17.171	7 10 4.2	128.31	0 43.1		
26	19 38 48.49	+16.688	-22 53 51.7	+25.68	23 17.5	26	23 12 8.34	+17.000	-6 18 19.0	+130.42	0 46.0		
27	19 45 29.80	16.755	22 42 54.6	29.09	23 20.2	27	23 18 56.50	16.930	5 25 46.9	132.19	0 48.9		
28	19 52 12.65	16.816	22 30 35.3	32.53	23 23.0	28	23 25 41.13	16.775	4 32 37.1	133.57	0 51.7		
29	19 58 56.92	16.872	22 16 53.1	35.99	23 25.9	29	23 32 21.40	16.574	3 38 59.0	134.53	0 54.4		
30	20 5 42.50	16.925	22 1 47.5	39.48	23 28.7	30	23 38 56.35	16.330	2 45 3.5	135.00	0 57.1		
31	20 12 29.29	+16.973	-21 45 17.9	+42.99	23 31.6	31	23 45 24.87	+16.036	-1 51 3.6	+134.88	0 59.6		
32	20 19 17.19	+17.018	-21 27 23.7	+46.53	23 34.4	32	23 51 45.72	+15.691	-0 57 13.0	+134.21	1 2.0		
Day of the Month.	1st.	5th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.					
Semidiameter . .	3.2	3.0	2.8	2.6	2.5	2.5	2.4	Semidiameter	2.4	2.4	2.4	2.5	2.6
Hor. Parallax . .	8.6	7.9	7.4	7.0	6.7	6.5	6.4	Hor. Parallax	6.3	6.3	6.4	6.5	6.8

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m				
1	23 32 21.40	+16.574	-3 38 59.0	+134.53	0 54.4	1	0 37 3.73	-6.783	+6 56 37.8	-74.99	23 50.2				
2	23 38 56.35	16.330	2 45 3.5	135.00	0 57.1	2	0 34 21.87	6.683	6 26 0.9	77.86	23 43.7				
3	23 45 24.87	16.038	1 51 3.6	134.88	0 59.6	3	0 31 43.97	6.454	5 54 31.3	79.39	23 37.2				
4	23 51 45.72	15.691	0 57 13.0	134.91	1 2.0	4	0 29 13.03	6.104	5 22 40.5	79.69	23 31.0				
5	23 57 57.56	15.385	-0 3 46.6	133.88	1 4.2	5	0 26 51.82	5.647	4 50 59.4	78.61	23 24.9				
6	0 3 58.91	+14.816	+0 48 59.5	+130.85	1 6.3	6	0 24 42.69	-5.100	+4 19 56.5	-76.45	23 19.0				
7	0 9 48.19	14.379	1 40 48.2	128.08	1 8.2	7	0 22 47.64	4.478	3 49 57.7	73.98	23 13.4				
8	0 15 23.74	13.672	2 31 21.6	124.58	1 9.8	8	0 21 8.24	3.797	3 21 25.8	69.94	23 8.1				
9	0 20 43.88	12.994	3 20 21.8	120.31	1 11.2	9	0 19 45.73	3.079	2 54 40.1	64.46	23 3.1				
10	0 25 46.86	12.344	4 7 30.5	115.98	1 12.3	10	0 18 41.01	2.317	2 29 56.3	59.10	22 58.4				
11	0 30 30.94	+11.422	+4 52 29.5	+109.51	1 13.1	11	0 17 54.63	-1.547	+2 7 27.0	-53.97	22 54.0				
12	0 34 54.58	10.533	5 35 1.4	103.03	1 13.5	12	0 17 26.84	-0.768	1 47 22.0	47.11	22 49.9				
13	0 38 56.08	9.589	6 14 49.5	96.87	1 13.6	13	0 17 17.72	+0.007	1 29 47.6	40.79	22 46.1				
14	0 42 34.06	8.573	6 51 37.8	88.05	1 13.2	14	0 17 27.09	0.779	1 14 48.3	34.91	22 42.6				
15	0 45 47.18	7.512	7 25 11.3	79.65	1 12.5	15	0 17 54.63	1.590	1 2 25.9	27.65	22 39.4				
16	0 48 34.30	+6.408	+7 55 16.6	+70.71	1 11.3	16	0 18 39.87	+2.247	+0 52 40.8	-21.12	22 36.5				
17	0 50 54.48	5.370	8 21 41.3	61.98	1 9.7	17	0 19 42.28	2.966	0 45 31.6	14.65	22 33.9				
18	0 52 47.04	4.108	8 44 14.5	51.41	1 7.6	18	0 21 1.27	3.698	0 40 56.7	8.99	22 31.5				
19	0 54 11.55	2.934	9 2 46.4	41.18	1 5.0	19	0 22 36.21	4.379	0 38 52.6	-2.08	22 29.4				
20	0 55 7.86	1.760	9 17 9.1	30.67	1 2.0	20	0 24 26.42	4.901	0 39 15.5	+3.96	22 27.5				
21	0 55 36.17	+0.602	+9 27 17.1	+19.96	0 58.5	21	0 26 31.23	+5.496	+0 42 1.4	+9.69	22 25.9				
22	0 55 37.02	-0.595	9 33 6.3	+9.13	0 54.6	22	0 28 50.01	6.065	0 47 5.6	16.50	22 24.4				
23	0 55 11.29	1.608	9 34 35.5	-1.69	0 50.2	23	0 31 22.15	6.609	0 54 23.6	30.97	22 23.2				
24	0 54 20.32	2.638	9 31 46.1	12.39	0 45.4	24	0 34 7.03	7.197	1 3 50.6	26.94	22 22.2				
25	0 53 5.81	3.568	9 24 42.8	22.83	0 40.3	25	0 37 4.06	7.622	1 15 21.7	31.31	22 21.4				
26	0 51 29.84	-4.412	+9 13 33.8	-32.83	0 34.7	26	0 40 12.72	+8.086	+1 28 52.1	+36.18	22 20.8				
27	0 49 34.94	5.144	8 58 31.5	42.25	0 28.9	27	0 43 32.52	8.550	1 44 17.0	40.66	22 20.4				
28	0 47 23.91	5.759	8 39 51.9	50.91	0 23.6	28	0 47 3.00	8.987	2 1 32.0	45.35	22 20.1				
29	0 44 59.88	6.385	8 17 55.4	58.64	0 18.5	29	0 50 43.77	9.406	2 20 32.5	49.66	22 20.0				
30	0 42 26.22	6.566	7 53 5.8	65.31	0 10.0	30	0 54 34.44	9.814	2 41 14.2	53.79	22 20.0				
31	0 39 46.34	-6.742	+7 25 50.0	-70.79	0 2.0	31	0 58 34.70	+10.907	+3 3 32.8	+57.74	22 20.2				
32	0 37 3.73	-6.783	+6 56 37.8	-74.99	23 50.2	32	1 2 44.27	+10.589	+3 27 24.2	+61.59	22 20.6				
Day of the Month.		2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.		1st.	6th.	11th.	16th.	21st.	26th.
Semidiameter		2.7	3.0	3.4	4.0	4.6	5.3	Semidiameter		5.6	5.7	5.4	5.0	4.6	4.2
Hor. Parallax		7.3	8.0	9.1	10.6	12.4	13.9	Hor. Parallax		14.9	15.0	14.4	13.3	12.2	11.1

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	0 58 34.70	+10.907	+ 3 3 32.8	+57.74	22 20.2	1	4 18 52.36	+22.663	+21 33 22.5	+81.40	23 43.2			
2	1 2 44.27	10.589	3 27 24.2	61.52	22 20.6	2	4 28 0.30	22.901	22 4 59.8	76.63	23 48.6			
3	1 7 2.91	10.902	3 52 44.4	65.14	22 21.1	3	4 37 15.54	23.271	22 34 36.8	71.38	23 54.0			
4	1 11 30.40	11.326	4 19 29.4	68.00	22 21.8	4	4 46 36.90	23.499	23 2 2.5	65.09	23 59.5			
5	1 16 6.59	11.688	4 47 35.7	71.89	22 22.6	5	4 56 3.03	23.698	23 27 6.9	59.61				
6	1 20 51.37	+12.043	+ 5 16 59.0	+75.03	22 23.5	6	5 5 32.50	+23.777	+23 49 41.1	+53.19	0 5.1			
7	1 25 44.64	12.306	5 47 35.9	78.02	22 24.5	7	5 15 3.81	23.822	24 9 37.9	46.50	0 10.7			
8	1 30 46.36	12.747	6 19 22.9	80.87	22 25.7	8	5 24 35.43	23.892	24 26 51.8	39.63	0 16.3			
9	1 35 56.50	13.098	6 52 16.6	83.56	22 27.1	9	5 34 5.82	23.790	24 41 19.2	32.64	0 21.9			
10	1 41 15.10	13.459	7 26 12.8	86.10	22 28.6	10	5 43 33.50	23.577	24 52 58.1	25.60	0 27.4			
11	1 46 42.22	+13.806	+ 8 1 8.1	+88.46	22 30.3	11	5 52 57.07	+23.378	+25 1 48.4	+18.00	0 32.9			
12	1 52 17.94	14.109	8 36 58.8	90.71	22 32.1	12	6 2 15.20	23.125	25 7 51.5	11.68	0 38.2			
13	1 58 2.37	14.535	9 13 41.0	92.78	22 34.0	13	6 11 26.68	22.925	25 11 10.5	+ 4.93	0 43.5			
14	2 3 55.67	14.908	9 51 11.0	94.68	22 36.1	14	6 20 30.44	22.489	25 11 49.7	- 1.63	0 48.6			
15	2 9 58.02	15.269	10 29 24.2	96.40	22 38.4	15	6 29 25.54	22.104	25 9 54.1	7.96	0 53.6			
16	2 16 9.61	+15.678	+11 8 16.6	+97.94	22 40.7	16	6 38 11.17	+21.094	+25 5 29.9	-14.01	0 58.5			
17	2 22 30.66	16.077	11 47 43.8	99.96	22 43.3	17	6 46 46.65	21.958	24 58 43.9	19.77	1 3.1			
18	2 29 1.39	16.486	12 27 40.5	100.41	22 46.0	18	6 55 11.41	20.802	24 49 43.3	25.22	1 7.6			
19	2 35 42.08	16.906	13 8 1.7	101.32	22 48.9	19	7 3 25.00	20.398	24 38 35.7	30.36	1 11.9			
20	2 42 32.98	17.337	13 48 41.8	101.97	22 52.0	20	7 11 27.04	19.840	24 25 28.7	35.17	1 16.0			
21	2 49 34.33	+17.778	+14 29 34.3	+102.36	22 55.3	21	7 19 17.25	+19.342	+24 10 30.0	-39.67	1 19.9			
22	2 56 46.39	18.298	15 10 32.9	102.47	22 58.7	22	7 26 55.41	18.837	23 53 47.2	43.84	1 23.6			
23	3 4 9.36	18.687	15 51 30.2	102.25	23 2.4	23	7 34 21.38	18.396	23 35 28.2	47.70	1 27.1			
24	3 11 43.42	19.153	16 32 18.0	101.68	23 6.2	24	7 41 35.05	17.813	23 15 40.3	51.24	1 30.3			
25	3 19 28.72	19.625	17 12 47.8	100.74	23 10.2	25	7 48 36.37	17.297	22 54 31.0	54.48	1 33.4			
26	3 27 25.31	+20.093	+17 52 50.3	+99.40	23 14.4	26	7 55 25.28	+16.779	+22 32 7.4	-57.44	1 36.3			
27	3 35 33.16	20.561	18 32 15.3	97.69	23 18.7	27	8 2 1.76	16.261	22 8 36.4	60.10	1 39.9			
28	3 43 52.17	21.021	19 10 52.1	95.38	23 23.3	28	8 8 25.82	15.744	21 44 4.7	62.49	1 41.4			
29	3 52 22.06	21.468	19 48 29.4	92.65	23 28.0	29	8 14 37.47	15.027	21 18 39.1	64.61	1 43.6			
30	4 1 2.45	21.894	20 24 55.0	89.41	23 33.0	30	8 20 36.71	14.710	20 52 25.7	66.47	1 45.6			
31	4 9 52.78	+22.225	+20 59 56.8	+86.66	23 38.0	31	8 26 23.53	+14.192	+20 25 30.9	-68.07	1 47.4			
32	4 18 52.36	+22.663	+21 33 22.5	+81.40	23 43.2	32	8 31 57.92	+13.674	+19 58 0.6	-69.42	1 49.0			
Day of the Month.	1st.	5th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .	3.8	3.5	3.2	3.0	2.8	2.7	2.6	Semidiameter . .	2.5	2.6	2.7	2.8	3.0	3.3
Hor. Parallax . .	10.1	9.3	8.5	7.9	7.4	7.0	6.8	Hor. Parallax . .	6.7	6.8	7.1	7.5	8.0	8.7

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>		<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>
1	8 26 23.53	+14.199	+20 25 30.9	-68.07	1 47.4	1	9 27 48.59	- 5.780	+10 2 41.3	+11.50	0 46.4
2	8 31 57.92	13.674	19 58 0.6	69.43	1 49.0	2	9 25 23.04	6.337	10 8 32.2	17.73	0 40.0
3	8 37 19.88	13.156	19 30 1.0	70.59	1 50.5	3	9 22 45.09	6.810	10 16 51.0	23.80	0 33.4
4	8 42 29.38	12.635	19 1 37.7	71.38	1 51.7	4	9 19 56.93	7.186	10 27 32.4	29.60	0 26.7
5	8 47 26.35	12.119	18 32 56.5	72.01	1 52.7	5	9 17 1.07	7.449	10 40 28.9	35.03	0 19.9
6	8 52 10.71	+11.584	+18 4 3.2	-72.40	1 53.5	6	9 14 0.35	- 7.589	+10 55 30.3	+39.99	0 13.0
7	8 56 42.36	11.069	17 35 3.5	72.55	1 54.0	7	9 10 57.86	7.595	11 12 24.0	44.38	0 8.0
8	9 1 1.18	10.514	17 6 2.8	72.46	1 54.3	8	9 7 56.90	7.400	11 30 55.1	48.10	23 52.2
9	9 5 6.99	9.969	16 37 7.0	72.14	1 54.5	9	9 5 0.92	7.181	11 50 47.0	51.09	23 45.5
10	9 8 59.63	9.416	16 8 21.9	71.58	1 54.4	10	9 2 13.37	6.757	12 11 41.4	53.31	23 39.0
11	9 12 38.86	+ 8.859	+15 39 53.3	-70.77	1 54.2	11	8 59 37.71	- 6.192	+12 33 19.2	+54.70	23 32.8
12	9 16 4.41	8.276	15 11 46.9	69.72	1 53.6	12	8 57 17.24	5.492	12 55 20.4	55.92	23 26.8
13	9 19 16.01	7.688	14 44 9.0	68.40	1 52.8	13	8 55 15.11	4.666	13 17 25.1	55.00	23 21.2
14	9 22 13.34	7.067	14 17 5.7	66.83	1 51.8	14	8 53 34.16	3.798	13 39 13.9	53.92	23 16.0
15	9 24 56.05	6.469	13 50 43.4	64.98	1 50.6	15	8 52 16.93	2.999	14 0 27.1	52.06	23 11.2
16	9 27 23.74	+ 5.835	+13 25 8.6	-69.86	1 49.1	16	8 51 25.59	- 1.572	+14 20 46.8	+49.46	23 6.8
17	9 29 36.01	5.184	13 0 28.3	60.45	1 47.4	17	8 51 1.99	- 0.364	14 39 55.8	46.16	23 3.0
18	9 31 32.43	4.515	12 36 49.4	57.74	1 45.3	18	8 51 7.54	+ 0.853	14 57 37.5	42.21	22 59.6
19	9 33 12.57	3.897	12 14 19.1	54.73	1 43.0	19	8 51 43.22	2.126	15 13 37.0	37.65	22 56.8
20	9 34 35.96	3.190	11 53 5.0	51.40	1 40.5	20	8 52 49.75	3.490	15 27 40.1	32.59	22 54.4
21	9 35 42.16	+ 2.394	+11 33 14.6	-47.75	1 37.6	21	8 54 27.41	+ 4.718	+15 39 33.9	+26.88	22 52.6
22	9 36 30.73	1.651	11 14 55.8	43.77	1 34.4	22	8 56 36.14	6.006	15 49 6.5	20.76	22 51.3
23	9 37 1.29	0.893	10 58 16.2	39.47	1 31.0	23	8 59 15.59	7.975	15 56 6.9	14.91	22 50.5
24	9 37 13.49	+ 0.122	10 43 24.0	34.84	1 27.3	24	9 2 25.06	8.508	16 0 25.7	7.99	22 50.2
25	9 37 7.08	- 0.658	10 30 26.7	29.88	1 23.2	25	9 6 3.59	9.695	16 1 54.1	+ 0.04	22 50.3
26	9 36 41.88	- 1.442	+10 19 32.2	-24.62	1 18.9	26	9 10 9.96	+10.895	+16 0 25.1	- 7.49	22 50.9
27	9 35 57.87	2.294	10 10 47.3	19.07	1 14.2	27	9 14 42.67	11.888	15 55 52.8	15.22	22 51.9
28	9 34 55.21	2.996	10 4 18.8	13.27	1 9.2	28	9 19 40.00	12.876	15 48 13.3	23.08	22 53.3
29	9 33 34.23	3.749	10 0 12.1	7.26	1 3.9	29	9 25 0.07	13.781	15 37 24.4	31.00	22 55.0
30	9 31 55.51	4.472	9 58 31.7	- 1.08	0 58.3	30	9 30 40.80	14.597	15 23 25.5	38.90	22 57.0
31	9 29 59.91	- 5.153	+ 9 59 21.0	+ 5.90	0 52.5	31	9 36 40.00	+15.321	+15 6 18.3	-46.68	22 59.3
32	9 27 48.59	- 5.780	+10 2 41.3	+11.50	0 46.4	32	9 42 55.43	+15.949	+14 46 6.6	-54.26	23 1.9

Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter . .	3.6	3.9	4.2	4.6	5.0	5.4	Semidiameter . .	5.6	5.5	5.0	4.4	3.8	3.3
Hor. Parallax . .	9.4	10.3	11.3	12.3	13.4	14.3	Hor. Parallax . .	14.8	14.4	13.3	11.7	10.1	9.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m				
1	9 42 55.43	+15.949	+14 46 6.6	-54.36	23 1.9	1	13 3 3.62	+14.935	-6 16 45.6	-110.54	0 21.3				
2	9 49 24.78	16.482	14 22 55.9	61.58	23 4.6	2	13 9 0.98	14.846	7 0 43.1	109.24	0 23.3				
3	9 56 5.81	16.922	13 56 53.5	68.55	23 7.5	3	13 14 56.29	14.764	7 44 8.8	107.88	0 25.3				
4	10 2 56.33	17.373	13 28 8.7	75.12	23 10.6	4	13 20 49.72	14.690	8 27 1.0	106.46	0 27.3				
5	10 9 54.24	17.540	12 56 51.6	81.94	23 13.7	5	13 26 41.45	14.622	9 9 18.4	104.98	0 29.2				
6	10 16 57.63	+17.730	+12 23 13.3	-86.87	23 16.8	6	13 32 31.62	+14.559	-9 50 59.8	-103.45	0 31.1				
7	10 24 4.71	17.850	11 47 26.0	91.98	23 20.0	7	13 38 20.33	14.502	10 32 3.7	101.86	0 33.0				
8	10 31 13.92	17.909	11 9 42.2	96.58	23 23.3	8	13 44 7.73	14.450	11 12 28.8	100.22	0 34.9				
9	10 38 23.91	17.915	10 30 14.1	100.68	23 26.4	9	13 49 53.93	14.402	11 52 13.8	98.52	0 36.6				
10	10 45 33.50	17.877	9 49 13.8	104.27	23 29.7	10	13 55 39.03	14.368	12 31 17.6	96.78	0 38.4				
11	10 52 41.70	+17.801	+9 6 53.1	-107.38	23 32.9	11	14 1 23.12	+14.318	-13 9 38.9	-94.26	0 40.2				
12	10 59 47.72	17.686	8 23 23.4	110.03	23 36.0	12	14 7 6.28	14.260	13 47 16.3	93.13	0 42.0				
13	11 6 50.92	17.567	7 38 55.1	112.26	23 39.1	13	14 12 48.57	14.245	14 24 8.6	91.22	0 43.8				
14	11 13 50.80	17.420	6 53 38.0	114.10	23 42.1	14	14 18 30.03	14.210	15 0 14.6	89.27	0 45.5				
15	11 20 47.00	17.261	6 7 41.2	115.58	23 45.0	15	14 24 10.67	14.177	15 35 33.1	87.26	0 47.3				
16	11 27 39.27	+17.094	+5 21 12.8	-116.73	23 47.9	16	14 29 50.51	+14.144	-16 10 2.6	-85.19	0 49.0				
17	11 34 27.45	16.921	4 34 20.6	117.58	23 50.7	17	14 35 29.56	14.110	16 43 41.8	83.07	0 50.7				
18	11 41 11.46	16.746	3 47 11.1	118.16	23 53.4	18	14 41 7.77	14.074	17 16 29.3	80.88	0 52.4				
19	11 47 51.28	16.572	2 59 50.8	118.50	23 56.0	19	14 46 45.07	14.035	17 48 23.6	78.64	0 54.1				
20	11 54 26.94	16.400	2 12 24.9	118.62	23 58.6	20	14 52 21.39	13.992	18 19 23.4	76.33	0 55.7				
21	12 0 56.53	+16.223	+1 24 58.5	-118.55		21	14 57 56.62	+13.943	-18 49 27.0	-73.26	0 57.4				
22	12 7 26.17	16.071	0 37 36.1	118.29	0 1.2	22	15 3 30.61	13.898	19 18 32.8	71.52	0 59.0				
23	12 13 49.99	15.915	-0 9 38.3	117.88	0 3.6	23	15 9 3.18	13.854	19 46 39.2	69.01	1 0.6				
24	12 20 10.14	15.765	0 56 41.3	117.34	0 6.0	24	15 14 34.09	13.799	20 13 44.5	66.42	1 2.2				
25	12 26 26.79	15.623	1 43 29.6	116.66	0 8.3	25	15 20 3.08	13.664	20 39 46.8	63.76	1 3.7				
26	12 32 40.12	+15.489	-2 30 0.1	-115.87	0 10.6	26	15 25 29.85	+13.564	-21 4 44.2	-61.01	1 5.2				
27	12 38 50.32	15.363	3 16 10.6	114.98	0 12.9	27	15 30 54.01	13.447	21 28 34.7	58.18	1 6.7				
28	12 44 57.60	15.244	4 1 58.5	113.99	0 15.1	28	15 36 15.13	13.310	21 51 16.3	55.27	1 8.1				
29	12 51 2.11	15.133	4 47 21.5	112.92	0 17.2	29	15 41 32.70	13.150	22 12 47.0	52.26	1 9.5				
30	12 57 4.06	15.030	5 32 17.9	111.76	0 19.3	30	15 46 46.13	12.964	22 33 4.2	49.15	1 10.7				
31	13 3 3.62	+14.935	-6 16 45.6	-110.54	0 21.3	31	15 51 54.74	+12.748	-22 52 5.6	-45.24	1 11.9				
32	13 9 0.98	+14.846	-7 0 43.1	-109.24	0 23.3	32	15 56 57.74	+12.606	-23 9 48.5	-42.62	1 13.0				
Day of the Month.		3d.	8th.	13th.	18th.	23d.	28th.	Day of the Month.		3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter . . .		2.9	2.7	2.5	2.4	2.4	2.4	Semidiameter . .		2.4	2.4	2.5	2.6	2.7	2.9
Hor. Parallax . . .		7.8	7.1	6.7	6.4	6.3	6.3	Hor. Parallax . .		6.3	6.4	6.6	6.8	7.1	7.6

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	15 56 57.74	+12.496	-23 9 48.5	-42.68	1 13.0	1	15 47 33.39	- 8.972	-17 38 43.1	+53.95	22 57.7
2	16 1 54.24	12.905	23 26 10.4	39.19	1 14.0	2	15 44 36.68	6.441	17 19 19.9	48.80	22 52.5
3	16 6 43.21	11.865	23 41 8.4	35.63	1 14.9	3	15 42 24.63	4.562	17 4 26.9	31.51	22 47.1
4	16 11 23.50	11.480	23 54 39.4	31.93	1 15.6	4	15 40 57.62	2.697	16 54 6.4	20.96	22 42.4
5	16 15 53.78	11.032	24 6 40.0	28.09	1 16.2	5	15 40 14.66	- 0.896	16 48 10.5	+ 9.51	22 38.4
6	16 20 12.53	+10.518	-24 17 6.7	-24.11	1 16.5	6	15 40 13.73	+ 0.899	-16 46 23.9	- 0.46	22 35.1
7	16 24 18.07	9.930	24 25 55.8	19.96	1 16.6	7	15 40 52.21	2.388	16 48 26.1	9.54	22 32.4
8	16 28 8.50	9.258	24 33 3.1	15.62	1 16.5	8	15 42 7.06	3.833	16 53 53.6	17.58	22 30.2
9	16 31 41.70	8.492	24 38 23.9	11.06	1 16.1	9	15 43 55.13	5.151	17 2 21.6	24.58	22 28.5
10	16 34 55.32	7.695	24 41 53.2	6.33	1 15.4	10	15 46 13.29	6.341	17 13 25.4	30.56	22 27.3
11	16 37 46.79	+ 6.644	-24 43 25.6	- 1.34	1 14.3	11	15 48 58.55	+ 7.411	-17 26 41.1	-35.58	22 26.5
12	16 40 13.29	5.542	24 42 55.1	+ 3.93	1 12.8	12	15 52 8.11	8.368	17 41 46.3	39.71	22 26.1
13	16 42 11.81	4.312	24 40 14.6	9.50	1 10.8	13	15 55 39.39	9.223	17 58 20.5	43.02	22 26.0
14	16 43 39.24	2.950	24 35 16.6	15.39	1 8.3	14	15 59 30.07	9.987	18 16 5.0	45.58	22 26.2
15	16 44 32.35	+ 1.450	24 27 53.2	21.62	1 5.2	15	16 3 38.11	10.668	18 34 42.8	47.46	22 26.6
16	16 44 48.06	- 0.166	-24 17 55.7	+28.23	1 1.5	16	16 8 1.58	+11.378	-18 53 58.6	-48.76	22 27.3
17	16 44 23.51	1.897	24 5 15.4	35.19	0 57.2	17	16 12 38.93	11.894	19 13 39.2	49.54	22 28.2
18	16 43 16.34	3.719	23 49 43.9	42.48	0 52.1	18	16 17 28.69	12.314	19 33 32.8	49.85	22 29.2
19	16 41 25.02	5.568	23 31 14.8	50.00	0 46.3	19	16 22 29.60	12.754	19 53 28.8	49.75	22 30.4
20	16 38 49.18	7.412	23 9 43.5	57.61	0 39.7	20	16 27 40.55	13.182	20 13 17.9	49.29	22 31.8
21	16 35 29.96	- 9.170	-22 45 11.1	+65.05	0 32.5	21	16 33 0.60	+13.512	-20 32 52.2	-48.51	22 33.3
22	16 31 30.40	10.758	22 17 44.9	72.01	0 24.6	22	16 38 28.88	13.840	20 52 4.2	47.45	22 35.0
23	16 26 55.62	12.090	21 47 41.9	78.05	0 16.1	23	16 44 4.67	14.138	21 10 47.6	46.14	22 36.7
24	16 21 52.82	13.078	21 15 29.3	82.72	0 7.2	24	16 49 47.30	14.411	21 28 56.8	44.60	22 38.6
25	16 16 31.13	13.654	20 41 46.2	85.52	23 48.5	25	16 55 36.22	14.662	21 46 26.8	42.86	22 40.4
26	16 11 1.04	-13.773	-20 7 22.2	+86.07	23 39.2	26	17 1 30.92	+14.893	-22 3 12.9	-40.95	22 42.6
27	16 5 33.72	13.494	19 33 14.7	84.12	23 30.0	27	17 7 30.95	15.106	22 19 11.2	38.88	22 44.8
28	16 0 20.18	12.633	19 0 24.3	79.66	23 21.4	28	17 13 35.89	15.304	22 34 18.1	36.67	22 47.0
29	15 55 30.39	11.457	18 29 49.6	72.86	23 13.2	29	17 19 45.42	15.488	22 48 30.3	34.32	22 49.3
30	15 51 12.68	9.974	18 2 22.3	64.12	23 5.6	30	17 25 59.21	15.659	23 1 44.8	31.86	22 51.6
31	15 47 33.39	- 8.972	-17 38 43.1	+53.95	22 57.7	31	17 32 16.96	+15.818	-23 13 59.0	-39.30	22 54.0
32	15 44 36.68	- 6.441	-17 19 19.9	+42.80	22 52.5	32	17 38 38.43	+15.969	-23 25 10.4	-36.64	22 56.5

Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	32d.
Semidiameter . .	3'.1	3'.4	3'.8	4'.3	4'.8	4'.9	Semidiameter . .	4'.5	4'.0	3'.5	3'.1	2'.9	2'.7	2'.5
Hor. Parallax . .	8.2	9.0	10.0	11.4	12.7	13.0	Hor. Parallax . .	12.0	10.5	9.2	8.3	7.6	7.1	6.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	16 42 36.52	+13.113	-20 59 34.4	-30.30	21 58.4	1	19 28 59.31	+13.356	-21 59 10.9	+21.09	22 42.7
2	16 47 51.70	13.152	21 11 23.7	26.80	21 59.7	2	19 34 19.53	13.388	21 50 12.3	23.97	22 44.1
3	16 53 7.79	13.190	21 22 36.7	27.28	22 1.1	3	19 39 39.06	13.398	21 40 34.2	24.91	22 45.5
4	16 58 24.79	13.226	21 33 13.1	25.74	22 2.4	4	19 44 57.86	13.397	21 30 17.0	26.53	22 46.8
5	17 3 42.63	13.261	21 43 12.3	24.18	22 3.8	5	19 50 15.88	13.324	21 19 21.0	28.13	22 48.2
6	17 9 1.29	+13.294	-21 52 33.5	-22.00	22 5.1	6	19 55 33.09	+13.190	-21 7 46.8	+20.79	22 49.5
7	17 14 20.72	13.325	22 1 16.7	21.00	22 6.5	7	20 0 49.44	13.163	20 55 34.6	31.29	22 50.8
8	17 19 40.87	13.355	22 9 21.2	19.38	22 7.9	8	20 6 4.91	13.125	20 42 45.0	32.84	22 52.1
9	17 25 1.70	13.389	22 16 46.6	17.74	22 9.3	9	20 11 19.46	13.086	20 29 18.5	34.37	22 53.4
10	17 30 23.16	13.407	22 23 32.6	16.09	22 10.7	10	20 16 33.06	13.046	20 15 15.6	35.87	22 54.6
11	17 35 45.20	+13.430	-22 29 38.8	-14.42	22 12.2	11	20 21 45.68	+13.004	-20 0 36.9	+37.35	22 55.9
12	17 41 7.76	13.451	22 35 4.7	12.74	22 13.6	12	20 26 57.29	12.968	19 45 22.9	38.81	22 57.1
13	17 46 30.80	13.469	22 39 50.2	11.05	22 15.1	13	20 32 7.86	12.918	19 29 34.1	40.25	22 58.3
14	17 51 54.25	13.485	22 43 54.9	9.34	22 16.5	14	20 37 17.38	12.874	19 13 11.1	41.66	22 59.5
15	17 57 18.06	13.498	22 47 18.6	7.63	22 18.0	15	20 42 25.81	12.828	18 56 14.6	43.04	23 0.7
16	18 2 42.15	+13.509	-22 50 1.0	-5.91	22 19.4	16	20 47 33.14	+12.782	-18 38 45.3	+44.40	23 1.8
17	18 8 6.48	13.518	22 52 2.1	4.18	22 20.9	17	20 52 39.36	12.735	18 20 43.7	45.73	23 3.0
18	18 13 30.98	13.524	22 53 21.6	2.45	22 22.3	18	20 57 44.45	12.688	18 2 10.5	47.03	23 4.1
19	18 18 55.60	13.527	22 53 59.3	-0.71	22 23.8	19	21 2 48.40	12.640	17 43 6.4	48.30	23 5.2
20	18 24 20.27	13.528	22 53 55.4	+1.03	22 25.3	20	21 7 51.19	12.592	17 23 32.0	49.55	23 6.3
21	18 29 44.94	+13.527	-22 53 9.7	+2.77	22 26.8	21	21 12 52.83	+12.544	-17 3 28.1	+50.77	23 7.4
22	18 35 9.53	13.523	22 51 42.2	4.51	22 28.3	22	21 17 53.32	12.496	16 42 55.3	51.96	23 8.5
23	18 40 34.00	13.516	22 49 33.0	6.25	22 29.8	23	21 22 52.66	12.444	16 21 54.4	53.11	23 9.6
24	18 45 58.28	13.507	22 46 42.1	7.99	22 31.3	24	21 27 50.85	12.401	16 0 26.1	54.24	23 10.6
25	18 51 22.32	13.496	22 43 9.6	9.72	22 32.7	25	21 32 47.89	12.353	15 38 31.0	55.34	23 11.6
26	18 56 46.06	+13.483	-22 38 55.7	+11.44	22 34.2	26	21 37 43.79	+12.306	-15 16 9.9	+56.41	23 12.5
27	19 2 9.45	13.467	22 34 0.4	13.16	22 35.6	27	21 42 38.57	12.259	14 53 23.5	57.45	23 13.4
28	19 7 32.44	13.449	22 28 24.0	14.87	22 37.0	28	21 47 32.24	12.213	14 30 12.4	58.46	23 14.3
29	19 12 54.97	13.428	22 22 6.5	16.58	22 38.4	29	21 52 24.91	12.168	14 6 37.5	59.44	23 15.2
30	19 18 16.99	13.406	22 15 8.3	18.27	22 39.8	30	21 57 16.31	12.123	13 42 39.4	60.39	23 16.1
31	19 23 38.45	+13.382	-22 7 29.7	+19.25	22 41.3	31	22 2 6.74	+12.079	-13 18 18.9	+61.31	23 17.0
32	19 28 59.31	+13.356	-21 59 10.9	+21.09	22 42.7	32	22 6 56.14	+12.036	-12 53 36.6	+62.29	23 17.9
Day of the Month.						Day of the Month.					
	1st.	6th.	11th.	16th.	21st.		5th.	10th.	15th.	20th.	25th.
Semidiameter . .	6.1	6.0	5.9	5.8	5.8	Semidiameter	6.5	6.5	6.4	6.3	6.3
Hor. Parallax . .	6.4	6.2	6.1	6.0	5.9	Hor. Parallax	5.7	5.6	5.6	5.5	5.5

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"			h m s	s	° ' "	"	
1	21 52 24.81	+12.168	-14 6 37.5	+59.44	23 15.2	1	0 16 50.02	+11.348	+ 0 15 30.2	+74.72	23 37.2
2	21 57 16.31	12.193	13 42 39.4	60.39	23 16.1	2	0 21 22.34	11.347	0 45 23.6	74.73	23 37.8
3	22 2 6.74	12.079	13 18 18.9	61.31	23 17.0	3	0 25 54.65	11.347	1 15 17.0	74.71	23 38.3
4	22 6 56.14	12.036	12 53 36.6	62.90	23 17.9	4	0 30 26.99	11.349	1 45 9.6	74.66	23 38.9
5	22 11 44.51	11.994	12 28 33.3	63.06	23 18.8	5	0 34 59.40	11.353	2 15 0.7	74.50	23 39.5
6	22 16 31.88	+11.953	-12 3 9.7	+63.89	23 19.6	6	0 39 31.92	+11.359	+ 2 44 49.6	+74.48	23 40.1
7	22 21 18.28	11.913	11 37 26.6	64.69	23 20.4	7	0 44 4.60	11.366	3 14 35.6	74.35	23 40.7
8	22 26 3.73	11.874	11 11 24.6	65.46	23 21.2	8	0 48 37.48	11.375	3 44 18.0	74.19	23 41.3
9	22 30 48.25	11.836	10 45 4.5	66.20	23 22.0	9	0 53 10.60	11.386	4 13 56.2	73.99	23 41.9
10	22 35 31.89	11.799	10 18 27.1	66.91	23 22.7	10	0 57 43.99	11.398	4 43 29.3	73.76	23 42.5
11	22 40 14.65	+11.764	- 9 51 33.0	+67.59	23 23.5	11	1 2 17.70	+11.412	+ 5 12 56.7	+73.51	23 43.2
12	22 44 56.58	11.730	9 24 23.1	68.23	23 24.2	12	1 6 51.78	11.428	5 42 17.6	73.23	23 43.8
13	22 49 37.69	11.697	8 56 58.0	68.85	23 25.0	13	1 11 26.26	11.445	6 11 31.3	72.91	23 44.5
14	22 54 18.04	11.665	8 29 18.5	69.43	23 25.7	14	1 16 1.16	11.464	6 40 37.0	72.56	23 45.1
15	22 58 57.64	11.634	8 1 25.4	69.99	23 26.4	15	1 20 36.54	11.485	7 9 34.1	72.18	23 45.8
16	23 3 36.52	+11.605	- 7 33 19.3	+70.51	23 27.1	16	1 25 12.44	+11.507	+ 7 38 21.7	+71.78	23 46.4
17	23 8 14.71	11.577	7 5 1.1	71.00	23 27.8	17	1 29 48.88	11.530	8 6 59.1	71.34	23 47.1
18	23 12 52.25	11.551	6 36 31.5	71.46	23 28.5	18	1 34 25.89	11.555	8 35 25.7	70.87	23 47.8
19	23 17 29.17	11.526	6 7 51.3	71.89	23 29.2	19	1 39 3.51	11.581	9 3 40.6	70.37	23 48.5
20	23 22 5.51	11.502	5 39 1.1	72.29	23 29.8	20	1 43 41.78	11.609	9 31 43.1	69.83	23 49.2
21	23 26 41.30	+11.480	- 5 10 1.7	+72.65	23 30.4	21	1 48 20.74	+11.638	+ 9 59 32.5	+69.37	23 49.9
22	23 31 16.58	11.460	4 40 53.9	72.99	23 31.0	22	1 53 0.41	11.668	10 27 8.0	68.68	23 50.6
23	23 35 51.39	11.441	4 11 38.3	73.29	23 31.7	23	1 57 40.83	11.700	10 54 28.9	68.06	23 51.4
24	23 40 25.77	11.424	3 42 15.8	73.57	23 32.3	24	2 2 22.03	11.734	11 21 34.5	67.41	23 52.1
25	23 44 59.75	11.408	3 12 47.0	73.83	23 32.9	25	2 7 4.04	11.768	11 48 23.9	66.78	23 52.9
26	23 49 33.37	+11.394	- 2 43 12.7	+74.04	23 33.5	26	2 11 46.89	+11.803	+12 14 56.6	+66.00	23 53.7
27	23 54 6.68	11.382	2 13 33.5	74.29	23 34.1	27	2 16 30.61	11.840	12 41 11.7	65.25	23 54.5
28	23 58 39.72	11.372	1 43 50.2	74.36	23 34.8	28	2 21 15.23	11.879	13 7 8.6	64.47	23 55.3
29	0 3 12.53	11.363	1 14 3.5	74.51	23 35.4	29	2 26 0.79	11.918	13 32 46.4	63.67	23 56.2
30	0 7 45.16	11.356	0 44 14.1	74.61	23 36.0	30	2 30 47.30	11.959	13 58 4.5	62.84	23 57.0
31	0 12 17.64	+11.351	- 0 14 22.6	+74.68	23 36.6	31	2 35 34.79	+11.999	+14 23 2.2	+61.97	23 57.9
32	0 16 50.02	+11.348	- 0 15 30.2	+74.72	23 37.2	32	2 40 23.28	+12.042	+14 47 38.7	+61.07	23 58.8

Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.
Semidiameter	5.2	5.2	5.1	5.1	5.1	5.0	Semidiameter . .	5.0	5.0	5.0	5.0	5.0	4.9
Hor. Parallax	5.4	5.4	5.3	5.3	5.3	5.2	Hor. Parallax . .	5.2	5.2	5.2	5.1	5.1	5.1

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
1	h m s 2 35 34.79	s +11.999	° ' " +14 23 2.2	" +61.97	h m 23 57.9	1	h m s 5 12 56.49	s +13.399	° ' " +23 22 58.3	" +20.81	h m 0 32.2					
2	2 40 23.28	12.042	14 47 38.7	61.07	23 58.8	2	5 18 15.97	13.324	23 30 57.5	19.11	0 33.6					
3	2 45 12.80	12.085	15 11 53.2	60.14	23 59.7	3	5 23 36.04	13.348	23 38 15.7	17.40	0 35.0					
4	2 50 3.37	12.129	15 35 45.1	59.18		4	5 28 56.64	13.369	23 44 52.6	15.67	0 36.4					
5	2 54 55.00	12.174	15 59 13.8	58.19	0 0.6	5	5 34 17.73	13.388	23 50 47.9	13.93	0 37.8					
6	2 59 47.73	+12.200	+16 22 18.3	+57.17	0 1.6	6	5 39 39.25	+13.405	+23 56 1.4	+12.18	0 39.2					
7	3 4 41.56	12.266	16 44 57.9	56.12	0 2.6	7	5 45 1.15	13.420	24 0 32.6	10.42	0 40.6					
8	3 9 36.50	12.312	17 7 12.0	55.04	0 3.5	8	5 50 23.37	13.432	24 4 21.4	8.65	0 42.0					
9	3 14 32.55	12.359	17 28 59.7	53.93	0 4.5	9	5 55 45.86	13.442	24 7 27.6	6.87	0 43.5					
10	3 19 29.73	12.406	17 50 20.3	52.79	0 5.5	10	6 1 8.55	13.449	24 9 51.0	5.08	0 44.9					
11	3 24 28.05	+12.453	+18 11 13.1	+51.61	0 6.5	11	6 6 31.38	+13.453	+24 11 31.5	+3.29	0 46.4					
12	3 29 27.51	12.500	18 31 37.5	50.41	0 7.6	12	6 11 54.28	13.455	24 12 29.1	+1.50	0 47.8					
13	3 34 28.10	12.548	18 51 32.8	49.18	0 8.6	13	6 17 17.20	13.454	24 12 43.6	-0.99	0 49.3					
14	3 39 29.82	12.595	19 10 58.1	47.92	0 9.7	14	6 22 40.07	13.451	24 12 15.1	2.09	0 50.7					
15	3 44 32.67	12.642	19 29 52.9	46.63	0 10.8	15	6 28 2.83	13.445	24 11 3.5	3.89	0 52.1					
16	3 49 36.64	+12.689	+19 48 16.3	+45.31	0 11.9	16	6 33 25.42	+13.437	+24 9 8.8	-5.68	0 53.5					
17	3 54 41.73	12.735	20 6 7.6	43.96	0 13.0	17	6 38 47.78	13.426	24 6 31.1	7.47	0 55.0					
18	3 59 47.92	12.780	20 23 26.2	42.58	0 14.2	18	6 44 9.84	13.412	24 3 10.7	9.25	0 56.4					
19	4 4 55.18	12.825	20 40 11.5	41.18	0 15.4	19	6 49 31.54	13.396	23 59 7.2	11.03	0 57.8					
20	4 10 3.50	12.868	20 56 22.9	39.75	0 16.6	20	6 54 52.81	13.377	23 54 21.3	12.80	0 59.2					
21	4 15 12.85	+12.911	+21 11 59.7	+38.30	0 17.8	21	7 0 13.61	+13.354	+23 48 53.0	-14.56	1 0.6					
22	4 20 23.23	12.953	21 27 1.2	36.82	0 19.1	22	7 5 33.87	13.332	23 42 42.5	16.31	1 2.0					
23	4 25 34.59	12.994	21 41 26.9	35.32	0 20.3	23	7 10 53.54	13.306	23 35 50.1	18.05	1 3.4					
24	4 30 46.93	13.034	21 55 16.2	33.79	0 21.6	24	7 16 12.56	13.278	23 28 16.2	19.78	1 4.8					
25	4 36 0.20	13.072	22 8 28.6	32.24	0 22.9	25	7 21 30.88	13.248	23 20 0.9	21.49	1 6.2					
26	4 41 14.38	+13.109	+22 21 3.5	+30.67	0 24.2	26	7 26 48.46	+13.216	+23 11 4.7	-23.19	1 7.6					
27	4 46 29.43	13.145	22 33 0.5	29.07	0 25.5	27	7 32 5.24	13.182	23 1 27.9	24.87	1 8.9					
28	4 51 45.32	13.179	22 44 18.9	27.45	0 26.8	28	7 37 21.19	13.146	22 51 10.9	26.54	1 10.2					
29	4 57 2.01	13.212	22 54 58.3	25.82	0 28.1	29	7 42 36.25	13.108	22 40 14.1	28.19	1 11.5					
30	5 2 19.46	13.243	23 4 58.3	24.17	0 29.5	30	7 47 50.39	13.069	22 28 37.9	29.82	1 12.8					
31	5 7 37.64	+13.272	+23 14 18.5	+22.50	0 30.8	31	7 53 3.57	+13.028	+22 16 22.8	-31.43	1 14.1					
32	5 12 56.49	+13.299	+23 22 58.3	+20.81	0 32.2	32	7 58 15.75	+12.986	+22 3 29.4	-33.02	1 15.4					
Day of the Month.		1st.	6th.	11th.	16th.	21st.	26th.	31st.	Day of the Month.		5th.	10th.	15th.	20th.	25th.	30th.
Semidiameter . .		4.9	4.9	4.9	5.0	5.0	5.0	5.0	Semidiameter . .		5.0	5.1	5.1	5.1	5.2	5.2
Hor. Parallax . .		5.1	5.1	5.1	5.1	5.1	5.2	5.2	Hor. Parallax . .		5.2	5.2	5.3	5.3	5.4	5.4

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	o ' "	"	h m		h m s	s	o ' "	"	h m	
1	7 53 3.57	+13.088	+22 16 22.8	-31.43	1 14.1	1	10 25 13.71	+11.514	+11 28 57.0	-68.43	1 44.1
2	7 58 15.75	12.986	22 3 29.4	33.02	1 15.4	2	10 29 49.54	11.473	11 1 25.9	69.15	1 44.7
3	8 3 26.91	12.942	21 49 57.9	34.59	1 16.6	3	10 34 24.40	11.433	10 33 37.8	69.85	1 45.4
4	8 8 37.01	12.898	21 35 49.0	36.14	1 17.8	4	10 38 58.32	11.395	10 5 33.3	70.51	1 46.0
5	8 13 46.03	12.859	21 21 3.3	37.67	1 19.0	5	10 43 31.34	11.358	9 37 13.2	71.15	1 46.6
6	8 18 53.93	+12.806	+21 5 41.2	-39.17	1 20.2	6	10 48 3.49	+11.322	+ 9 8 38.2	-71.76	1 47.2
7	8 24 0.71	12.758	20 49 43.3	40.65	1 21.3	7	10 52 34.80	11.288	8 39 49.0	72.34	1 47.8
8	8 29 6.33	12.710	20 33 10.2	42.10	1 22.5	8	10 57 5.30	11.255	8 10 46.3	72.88	1 48.3
9	8 34 10.77	12.660	20 16 2.5	43.53	1 23.6	9	11 1 35.03	11.223	7 41 30.8	73.40	1 48.8
10	8 39 14.01	12.610	19 58 20.9	44.93	1 24.8	10	11 6 4.03	11.193	7 12 3.2	73.89	1 49.3
11	8 44 16.03	+12.559	+19 40 6.0	-46.30	1 25.9	11	11 10 32.33	+11.165	+ 6 42 24.3	-74.35	1 49.8
12	8 49 16.82	12.507	19 21 18.4	47.65	1 27.0	12	11 14 59.97	11.138	6 12 34.8	74.78	1 50.4
13	8 54 16.38	12.455	19 1 58.8	48.97	1 28.1	13	11 19 26.98	11.113	5 42 35.6	75.18	1 50.9
14	8 59 14.69	12.403	18 42 7.7	50.37	1 29.1	14	11 23 53.39	11.089	5 12 27.1	75.55	1 51.4
15	9 4 11.74	12.351	18 21 46.0	51.53	1 30.1	15	11 28 19.24	11.066	4 42 10.1	75.88	1 51.9
16	9 9 7.53	+12.298	+18 0 54.4	-52.77	1 31.1	16	11 32 44.57	+11.045	+ 4 11 45.3	-76.18	1 52.1
17	9 14 2.06	12.246	17 39 33.4	53.97	1 32.0	17	11 37 9.42	11.026	3 41 13.5	76.46	1 52.8
18	9 18 55.33	12.193	17 17 43.8	55.15	1 32.9	18	11 41 33.82	11.008	3 10 35.3	76.71	1 53.2
19	9 23 47.33	12.141	16 55 26.4	56.29	1 33.8	19	11 45 57.82	10.989	2 39 51.6	76.93	1 53.7
20	9 28 38.08	12.088	16 32 41.8	57.41	1 34.7	20	11 50 21.44	10.977	2 9 3.0	77.11	1 54.2
21	9 33 27.57	+12.036	+16 9 30.9	-58.49	1 35.6	21	11 54 44.73	+10.964	+ 1 38 10.4	-77.27	1 54.7
22	9 38 15.82	11.985	15 45 54.4	59.55	1 36.5	22	11 59 7.73	10.953	1 7 14.2	77.40	1 55.1
23	9 43 2.84	11.934	15 21 52.9	60.57	1 37.3	23	12 3 30.48	10.943	0 36 15.2	77.50	1 55.6
24	9 47 48.65	11.884	14 57 27.2	61.56	1 38.1	24	12 7 53.02	10.936	+ 0 5 14.2	77.57	1 56.0
25	9 52 33.25	11.834	14 32 38.0	62.52	1 38.9	25	12 12 15.41	10.930	- 0 25 48.2	77.62	1 56.4
26	9 57 16.67	+11.785	+14 7 26.1	-63.46	1 39.7	26	12 16 37.67	+10.926	- 0 56 51.4	-77.63	1 56.8
27	10 1 58.93	11.737	13 41 52.1	64.36	1 40.5	27	12 20 59.85	10.924	1 27 54.6	77.69	1 57.3
28	10 6 40.05	11.690	13 15 56.9	65.24	1 41.3	28	12 25 21.99	10.923	1 58 57.1	77.78	1 57.7
29	10 11 20.07	11.644	12 49 41.0	66.08	1 42.0	29	12 29 44.14	10.924	2 29 58.3	77.81	1 58.2
30	10 15 59.00	11.600	12 23 5.2	66.88	1 42.7	30	12 34 6.34	10.927	3 0 57.5	77.81	1 58.6
31	10 20 36.87	+11.556	+11 56 10.3	-67.67	1 43.4	31	12 38 28.63	+10.932	- 3 31 54.0	-77.79	1 59.1
32	10 25 13.71	+11.514	+11 28 57.0	-68.43	1 44.1	32	12 42 51.06	+10.938	- 4 2 47.3	-77.14	1 59.5

Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter . .	5.3	5.3	5.4	5.5	5.6	5.6	Semidiameter . .	5.7	5.8	5.9	6.0	6.2	6.3
Hor. Parallax . .	5.5	5.5	5.6	5.6	5.7	5.8	Hor. Parallax . .	5.9	6.0	6.1	6.3	6.4	6.5

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
1	12 42 51.06	+10.938	- 4 2 47.3	-77.14	h m	1	14 58 8.25	+11.789	-18 5 9.8	-58.72	h m
2	12 47 13.66	10.946	4 33 36.6	76.96	1 59.5	2	15 2 51.70	11.833	18 28 26.3	57.64	2 17.2
3	12 51 36.48	10.956	5 4 21.2	76.75	2 0.3	3	15 7 36.90	11.875	18 51 16.5	56.53	2 18.0
4	12 55 59.56	10.968	5 35 0.4	76.51	2 0.8	4	15 12 21.74	11.919	19 13 39.7	55.40	2 18.8
5	13 0 22.95	10.982	6 5 33.6	76.24	2 1.2	5	15 17 8.34	11.965	19 35 35.3	54.24	2 19.7
6	13 4 46.68	+10.997	- 6 36 0.0	-75.95	2 1.7	6	15 21 55.99	+12.007	-19 57 2.6	-53.04	2 20.5
7	13 9 10.80	11.014	7 6 19.0	75.69	2 2.1	7	15 26 44.68	12.051	20 18 0.8	51.81	2 21.4
8	13 13 35.35	11.032	7 36 29.7	75.37	2 2.6	8	15 31 34.41	12.094	20 38 29.3	50.56	2 22.3
9	13 18 0.35	11.052	8 6 31.6	74.99	2 3.1	9	15 36 25.17	12.136	20 58 27.2	49.27	2 23.2
10	13 22 25.84	11.073	8 36 24.0	74.47	2 3.6	10	15 41 16.95	12.178	21 17 53.9	47.96	2 24.1
11	13 26 51.86	+11.096	- 9 6 6.0	-74.02	2 4.1	11	15 46 9.73	+12.219	-21 36 48.9	-46.62	2 25.1
12	13 31 18.44	11.120	9 35 37.0	73.55	2 4.6	12	15 51 3.49	12.260	21 55 11.4	45.25	2 26.0
13	13 35 45.61	11.145	10 4 56.2	73.04	2 5.1	13	15 55 58.21	12.299	22 13 0.8	43.86	2 27.0
14	13 40 13.41	11.172	10 34 2.8	72.50	2 5.6	14	16 0 53.85	12.337	22 30 16.4	42.44	2 28.0
15	13 44 41.87	11.200	11 2 56.2	71.93	2 6.1	15	16 5 50.38	12.374	22 46 57.6	40.99	2 29.0
16	13 49 11.02	+11.229	-11 31 35.6	-71.34	2 6.6	16	16 10 47.78	+12.409	-23 3 3.7	-39.52	2 30.0
17	13 53 40.89	11.259	12 0 0.3	70.71	2 7.2	17	16 15 46.00	12.443	23 18 34.2	38.02	2 31.0
18	13 58 11.50	11.291	12 28 9.6	70.05	2 7.7	18	16 20 45.01	12.475	23 33 28.5	36.50	2 32.0
19	14 2 42.88	11.324	12 56 2.6	69.36	2 8.3	19	16 25 44.77	12.505	23 47 46.1	34.96	2 33.1
20	14 7 15.05	11.358	13 23 38.7	68.64	2 8.9	20	16 30 45.25	12.534	24 1 26.4	33.40	2 34.1
21	14 11 46.05	+11.393	-13 50 57.1	-67.88	2 9.5	21	16 35 46.38	+12.561	-24 14 29.0	-31.81	2 35.2
22	14 16 21.89	11.426	14 17 57.1	67.10	2 10.1	22	16 40 48.12	12.585	24 26 53.3	30.21	2 36.3
23	14 20 56.61	11.465	14 44 37.9	66.29	2 10.8	23	16 45 50.41	12.607	24 38 38.9	28.59	2 37.4
24	14 25 32.22	11.503	15 10 58.8	65.45	2 11.4	24	16 50 53.21	12.627	24 49 45.5	26.95	2 38.5
25	14 30 8.75	11.542	15 36 59.2	64.58	2 12.1	25	16 55 56.47	12.645	25 0 12.5	25.30	2 39.7
26	14 34 46.21	+11.581	-16 2 38.3	-63.68	2 12.8	26	17 1 0.13	+12.660	-25 9 59.8	-23.63	2 40.8
27	14 39 24.63	11.621	16 27 55.4	62.74	2 13.5	27	17 6 4.13	12.673	25 19 6.8	21.95	2 41.9
28	14 44 4.03	11.662	16 52 49.9	61.78	2 14.2	28	17 11 8.41	12.683	25 27 33.3	20.26	2 43.0
29	14 48 44.42	11.704	17 17 20.9	60.79	2 14.9	29	17 16 12.91	12.691	25 35 19.0	18.55	2 44.2
30	14 53 25.82	11.746	17 41 27.8	59.77	2 15.6	30	17 21 17.56	12.696	25 42 23.7	16.84	2 45.3
31	14 58 8.25	+11.789	-18 5 9.8	-58.72	2 16.4	31	17 26 22.31	+12.698	-25 48 47.1	-15.11	2 46.4
32	15 2 51.70	+11.832	-18 28 26.3	-57.64	2 17.2	32	17 31 27.08	+12.698	-25 54 29.1	-13.38	2 47.5
Day of the Month.						Day of the Month.					
Semidiameter . . .						Semidiameter . . .					
Hor. Parallax . . .						Hor. Parallax . . .					
3d.						3d.					
8th.						8th.					
13th.						13th.					
18th.						18th.					
23d.						23d.					
29th.						29th.					
6.4						7.5					
6.6						7.8					
6.8						8.0					
6.9						8.3					
7.1						8.6					
7.3						8.9					
7.2						9.2					
7.4											
7.6											

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m
1	17 31 27.08	+12.698	-25 54 29.1	-13.38	2 47.5	1	19 57 23.74	+11.122	-23 30 14.8	+35.19	3 15.1
2	17 36 31.80	12.694	25 59 29.4	11.64	2 48.7	2	20 1 49.47	11.021	23 15 54.6	36.48	3 15.6
3	17 41 36.41	12.688	26 3 47.9	9.90	2 49.8	3	20 6 12.75	10.918	23 1 3.8	37.74	3 16.1
4	17 46 40.82	12.679	26 7 24.4	8.15	2 50.9	4	20 10 33.53	10.812	22 45 43.3	38.97	3 16.5
5	17 51 44.96	12.668	26 10 19.0	6.40	2 52.0	5	20 14 51.73	10.704	22 29 53.8	40.16	3 16.9
6	17 56 48.76	+12.650	-26 12 31.6	-4.65	2 53.2	6	20 19 7.31	+10.593	-22 13 36.1	+41.32	3 17.2
7	18 1 52.13	12.631	26 14 2.2	2.90	2 54.3	7	20 23 20.20	10.479	21 56 51.0	42.44	3 17.5
8	18 6 54.99	12.608	26 14 50.7	-1.15	2 55.4	8	20 27 30.32	10.362	21 39 39.5	43.52	3 17.7
9	18 11 57.26	12.581	26 14 57.3	+0.60	2 56.5	9	20 31 37.60	10.243	21 22 2.4	44.56	3 17.9
10	18 16 58.85	12.551	26 14 22.1	2.34	2 57.6	10	20 35 41.98	10.121	21 4 0.7	45.57	3 18.0
11	18 21 59.67	+12.517	-26 13 5.2	+4.07	2 58.7	11	20 39 43.39	+9.996	-20 45 35.4	+46.54	3 18.1
12	18 26 59.62	12.479	26 11 6.7	5.79	2 59.8	12	20 43 41.76	9.867	20 26 47.3	47.47	3 18.1
13	18 31 58.62	12.438	26 8 26.8	7.51	3 0.9	13	20 47 37.02	9.736	20 7 37.4	48.35	3 18.1
14	18 36 56.59	12.393	26 5 5.9	9.22	3 1.9	14	20 51 29.09	9.609	19 48 6.8	49.19	3 18.0
15	18 41 53.44	12.344	26 1 4.3	10.91	3 2.9	15	20 55 17.90	9.464	19 28 16.4	49.99	3 17.8
16	18 46 49.08	+12.302	-25 56 22.2	+12.59	3 3.9	16	20 59 3.38	+9.324	-19 8 7.3	+50.75	3 17.6
17	18 51 43.42	12.256	25 51 0.0	14.26	3 4.9	17	21 2 45.44	9.180	18 47 40.5	51.47	3 17.3
18	18 56 36.30	12.177	25 44 58.0	15.90	3 5.8	18	21 6 24.01	9.033	18 26 57.1	52.14	3 17.0
19	19 1 27.89	12.114	25 38 16.8	17.53	3 6.7	19	21 9 59.02	8.883	18 5 58.1	52.77	3 16.7
20	19 6 17.84	12.048	25 30 56.7	19.14	3 7.6	20	21 13 30.38	8.730	17 44 44.6	53.35	3 16.3
21	19 11 6.15	+11.978	-25 22 58.3	+20.72	3 8.4	21	21 16 58.01	+8.573	-17 23 17.8	+53.88	3 15.8
22	19 15 52.76	11.906	25 14 22.2	22.28	3 9.2	22	21 20 21.84	8.413	17 1 38.7	54.37	3 15.2
23	19 20 37.59	11.830	25 5 8.9	23.82	3 10.0	23	21 23 41.78	8.249	16 39 48.5	54.81	3 14.6
24	19 25 30.56	11.752	24 55 18.9	25.34	3 10.7	24	21 26 57.75	8.082	16 17 48.2	55.21	3 13.9
25	19 30 1.61	11.670	24 44 52.9	26.83	3 11.5	25	21 30 9.66	7.910	15 55 38.9	55.56	3 13.2
26	19 34 40.66	+11.585	-24 33 51.4	+28.29	3 12.2	26	21 33 17.42	+7.735	-15 33 21.7	+55.86	3 12.3
27	19 39 17.65	11.498	24 22 15.1	29.73	3 12.9	27	21 36 20.93	7.555	15 10 58.0	56.11	3 11.4
28	19 43 52.52	11.408	24 10 4.5	31.14	3 13.5	28	21 39 20.10	7.372	14 48 28.9	56.31	3 10.4
29	19 48 25.20	11.315	23 57 20.4	32.54	3 14.1	29	21 42 18.82	7.186	14 25 55.5	56.47	3 9.4
30	19 52 55.63	11.220	23 44 3.6	33.87	3 14.6	30	21 45 5.00	6.994	14 3 18.9	56.58	3 8.3
31	19 57 23.74	+11.122	-23 30 14.8	+35.19	3 15.1	31	21 47 50.52	+6.798	-13 40 40.5	+56.63	3 7.1
32	20 1 49.47	+11.021	-23 15 54.6	+36.48	3 15.6	32	21 50 31.26	+6.598	-13 18 1.4	+56.63	3 5.0
Day of the Month.						Day of the Month.					
Semidiameter						Semidiameter					
Hor. Parallax						Hor. Parallax					

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.									
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.				
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.					
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m				
1	0 11 8.02	+5.921	+1 2 4.9	+42.15	5 25.3	1	1 26 12.51	+6.900	+9 29 55.2	+38.93	4 38.1				
2	0 13 30.22	5.929	1 18 56.2	42.12	5 23.7	2	1 28 41.43	6.910	9 45 27.2	38.74	4 36.2				
3	0 15 52.59	5.937	1 35 46.7	42.09	5 22.1	3	1 31 10.58	6.920	10 0 54.7	38.55	4 35.4				
4	0 18 15.15	5.945	1 52 36.3	42.05	5 20.6	4	1 33 39.98	6.930	10 16 17.6	38.35	4 33.9				
5	0 20 37.89	5.953	2 9 24.9	42.00	5 19.0	5	1 36 9.64	6.941	10 31 35.6	38.15	4 32.5				
6	0 23 0.83	+5.961	+2 26 12.3	+41.95	5 17.5	6	1 38 39.55	+6.952	+10 46 48.8	+37.94	4 31.1				
7	0 25 23.95	5.969	2 42 58.5	41.90	5 15.9	7	1 41 9.72	6.963	11 1 57.0	37.73	4 29.6				
8	0 27 47.27	5.977	2 59 43.3	41.84	5 14.4	8	1 43 40.14	6.974	11 17 0.0	37.52	4 28.2				
9	0 30 10.78	5.985	3 16 26.7	41.78	5 12.9	9	1 46 10.84	6.985	11 31 57.9	37.30	4 26.7				
10	0 32 34.49	5.993	3 33 8.5	41.71	5 11.3	10	1 48 41.81	6.997	11 46 50.6	37.08	4 25.3				
11	0 34 58.42	+6.001	+3 49 48.7	+41.64	5 9.8	11	1 51 13.06	+6.308	+12 1 37.9	+36.85	4 23.9				
12	0 37 22.55	6.010	4 6 27.1	41.56	5 8.2	12	1 53 44.60	6.300	12 16 19.7	36.63	4 22.4				
13	0 39 46.90	6.019	4 23 3.6	41.48	5 6.7	13	1 56 16.41	6.322	12 30 55.9	36.38	4 21.0				
14	0 42 11.47	6.028	4 39 38.2	41.39	5 5.2	14	1 58 48.51	6.344	12 45 26.3	36.14	4 19.6				
15	0 44 36.26	6.037	4 56 10.6	41.30	5 3.6	15	2 1 20.89	6.356	12 59 50.9	35.90	4 18.2				
16	0 47 1.27	+6.047	+5 12 40.9	+41.21	5 2.1	16	2 3 53.57	+6.368	+13 14 9.6	+35.65	4 16.8				
17	0 49 26.51	6.056	5 29 8.9	41.11	5 0.6	17	2 6 26.54	6.380	13 28 22.3	35.39	4 15.4				
18	0 51 51.98	6.065	5 45 34.3	41.00	4 59.1	18	2 8 59.80	6.392	13 42 28.8	35.13	4 14.0				
19	0 54 17.68	6.075	6 1 57.2	40.89	4 57.6	19	2 11 33.35	6.404	13 56 29.0	34.87	4 12.6				
20	0 56 43.60	6.084	6 18 17.3	40.78	4 56.1	20	2 14 7.18	6.416	14 10 22.7	34.60	4 11.3				
21	0 59 9.76	+6.094	+6 34 34.6	+40.66	4 54.6	21	2 16 41.30	+6.427	+14 24 10.0	+34.32	4 9.9				
22	1 1 36.14	6.103	6 50 48.9	40.53	4 53.1	22	2 19 15.71	6.439	14 37 50.4	34.04	4 8.6				
23	1 4 2.75	6.113	7 7 0.0	40.39	4 51.6	23	2 21 50.41	6.451	14 51 24.0	33.75	4 7.2				
24	1 6 29.59	6.122	7 23 7.9	40.25	4 50.1	24	2 24 25.39	6.463	15 4 50.7	33.46	4 5.9				
25	1 8 56.66	6.132	7 39 12.3	40.11	4 48.6	25	2 27 0.65	6.475	15 18 10.3	33.17	4 4.5				
26	1 11 23.95	+6.142	+7 55 13.1	+39.96	4 47.1	26	2 29 36.19	+6.486	+15 31 22.7	+32.87	4 3.1				
27	1 13 51.47	6.151	8 11 10.2	39.80	4 45.6	27	2 32 12.01	6.498	15 44 27.9	32.56	4 1.5				
28	1 16 19.22	6.161	8 27 3.3	39.64	4 44.1	28	2 34 48.11	6.510	15 57 25.6	32.25	4 0.5				
29	1 18 47.19	6.170	8 42 52.6	39.47	4 42.6	29	2 37 24.50	6.522	16 10 15.8	31.94	3 59.1				
30	1 21 15.39	6.180	8 58 37.7	39.30	4 41.2	30	2 40 1.17	6.534	16 22 58.5	31.62	3 57.8				
31	1 23 43.84	+6.190	+9 14 18.6	+39.12	4 39.7	31	2 42 38.13	+6.546	+16 35 33.5	+31.30	3 56.4				
2	1 26 12.51	+6.900	+9 20 55.2	+38.93	4 38.3	32	2 45 15.37	+6.558	+16 48 0.6	+30.97	3 55.1				
Day of the Month.		0th.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.		4th.	9th.	14th.	19th.	24th.
Semidiameter . .		4'.1	4'.0	3'.8	3'.7	3'.6	3'.5	3'.4	Semidiameter		3'.3	3'.2	3'.1	3'.0	2'.9
Hor. Parallax . .		7.2	7.0	6.7	6.5	6.3	6.1	5.9	Hor. Parallax		5.7	5.6	5.4	5.3	5.1

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
1	h m s	s	° ' "	"	h m	1	h m s	s	° ' "	"	h m
2	2 37 24.50	+6.522	+16 10 15.8	+31.94	3 59.1	2	4 0 34.31	+6.877	+21 37 46.4	+20.98	3 20.1
3	2 40 1.17	6.534	16 22 58.5	31.62	3 57.8	3	4 3 19.48	6.887	21 45 47.9	19.85	3 18.9
4	2 42 38.13	6.546	16 35 33.5	31.30	3 56.4	4	4 6 4.87	6.896	21 53 39.1	19.42	3 17.7
5	2 45 15.37	6.558	16 48 0.6	30.97	3 55.1	5	4 8 50.47	6.905	22 1 19.9	18.98	3 16.5
6	2 47 52.89	6.570	17 0 19.8	30.64	3 53.8	6	4 11 36.30	6.914	22 8 50.1	18.54	3 15.3
7	2 50 30.70	+6.582	+17 12 31.0	+30.30	3 52.5	7	4 14 22.33	+6.923	+22 16 9.7	+18.10	3 14.2
8	2 53 8.80	6.594	17 24 34.2	29.96	3 51.2	8	4 17 8.58	6.932	22 23 18.7	17.65	3 13.0
9	2 55 47.90	6.606	17 36 29.2	29.62	3 49.9	9	4 19 55.04	6.941	22 30 17.0	17.20	3 11.9
10	2 58 25.89	6.618	17 48 16.0	29.27	3 48.6	10	4 22 41.70	6.949	22 37 4.6	16.75	3 10.7
11	3 1 4.88	6.630	17 50 54.5	28.92	3 47.3	11	4 25 28.56	6.957	22 43 41.5	16.30	3 9.6
12	3 3 44.17	+6.642	+18 11 24.5	+28.57	3 46.0	12	4 28 15.62	+6.965	+22 50 7.4	+15.85	3 8.4
13	3 6 23.75	6.655	18 22 46.1	28.22	3 44.8	13	4 31 2.87	6.973	22 56 22.5	15.40	3 7.3
14	3 9 3.63	6.668	18 33 59.1	27.86	3 43.5	14	4 33 50.31	6.980	23 2 26.7	14.94	3 6.1
15	3 11 43.80	6.681	18 45 3.4	27.50	3 42.2	15	4 36 37.93	6.987	23 8 19.8	14.48	3 5.0
16	3 14 24.27	6.693	18 55 58.8	27.13	3 40.9	16	4 39 25.72	6.994	23 14 1.9	14.02	3 3.8
17	3 17 5.04	+6.705	+19 6 45.5	+26.76	3 39.6	17	4 42 13.67	+7.001	+23 19 32.8	+13.56	3 2.7
18	3 19 46.10	6.717	19 17 23.1	26.38	3 38.4	18	4 45 1.78	7.007	23 24 52.6	13.09	3 1.5
19	3 22 27.45	6.729	19 27 51.7	26.00	3 37.1	19	4 47 50.04	7.013	23 30 1.2	12.62	3 0.4
20	3 25 9.09	6.741	19 38 11.1	25.61	3 35.9	20	4 50 38.44	7.019	23 34 58.5	12.15	2 59.2
21	3 27 51.00	6.753	19 48 21.3	25.22	3 34.6	21	4 53 26.97	7.024	23 39 44.6	11.68	2 58.1
22	3 30 33.20	+6.764	+19 58 22.1	+24.83	3 33.4	22	4 56 15.62	+7.029	+23 44 19.3	+11.21	2 57.0
23	3 33 15.67	6.775	20 8 13.4	24.44	3 32.2	23	4 59 4.38	7.033	23 48 42.6	10.74	2 55.9
24	3 35 58.41	6.786	20 17 55.2	24.04	3 30.9	24	5 1 53.26	7.037	23 52 54.4	10.26	2 54.7
25	3 38 41.41	6.797	20 27 27.3	23.64	3 29.7	25	5 4 42.23	7.041	23 56 55.0	9.78	2 53.6
26	3 41 24.67	6.808	20 36 49.6	23.23	3 28.5	26	5 7 31.27	7.045	24 0 44.0	9.30	2 52.5
27	3 44 8.18	+6.818	+20 46 2.1	+22.82	3 27.3	27	5 10 20.40	+7.048	+24 4 21.4	+8.82	2 51.4
28	3 46 51.94	6.828	20 55 4.7	22.40	3 26.1	28	5 13 9.59	7.051	24 7 47.4	8.34	2 50.3
29	3 49 35.94	6.838	21 3 57.4	21.98	3 24.9	29	5 15 58.85	7.053	24 11 1.9	7.86	2 49.2
30	3 52 20.18	6.848	21 12 39.9	21.56	3 23.7	30	5 18 48.17	7.055	24 14 4.7	7.38	2 48.0
31	3 55 4.66	6.858	21 21 12.3	21.14	3 22.5	31	5 21 37.53	7.057	24 16 56.0	6.89	2 46.9
32	3 57 49.37	+6.868	+21 29 34.5	+20.71	3 21.3	32	5 24 26.94	+7.059	+24 19 35.7	+6.41	2 45.8
33	4 0 34.31	+6.877	+21 37 46.4	+20.28	3 20.1	33	5 27 16.38	+7.060	+24 22 3.8	+5.93	2 44.7
Day of the Month.						Day of the Month.					
Semidiameter . .						Semidiameter . .					
Hor. Parallax . .						Hor. Parallax . .					
1st.	2.9	2.8	2.7	2.6	2.5	5th.	2.5	2.4	2.3	2.2	2.1
6th.	2.9	2.8	2.7	2.6	2.5	10th.	2.5	2.4	2.3	2.2	2.1
11th.	2.9	2.8	2.7	2.6	2.5	15th.	2.5	2.4	2.3	2.2	2.1
16th.	2.9	2.8	2.7	2.6	2.5	20th.	2.5	2.4	2.3	2.2	2.1
21st.	2.9	2.8	2.7	2.6	2.5	25th.	2.5	2.4	2.3	2.2	2.1
26th.	2.9	2.8	2.7	2.6	2.5	30th.	2.5	2.4	2.3	2.2	2.1
31st.	2.9	2.8	2.7	2.6	2.5						

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	° ' "	h m		h m s	s	° ' "	° ' "	h m	
1	5 24 26.94	+7.059	+24 19 35.7	+6.41	2 45.8	1	6 51 40.83	+6.956	+24 6 43.1	-8.36	2 10.9
2	5 27 16.38	7.060	24 22 3.8	5.93	2 44.7	2	6 54 27.69	6.948	24 3 17.1	8.82	2 9.7
3	5 30 5.84	7.061	24 24 20.4	5.45	2 43.6	3	6 57 14.35	6.940	23 59 40.2	9.27	2 8.5
4	5 32 55.34	7.062	24 26 25.4	4.97	2 42.5	4	7 0 0.81	6.932	23 55 52.4	9.72	2 7.3
5	5 35 44.85	7.063	24 28 18.7	4.48	2 41.4	5	7 2 47.06	6.923	23 51 53.8	10.17	2 6.1
6	5 38 34.37	+7.064	+24 30 0.4	+4.00	2 40.2	6	7 5 33.10	+6.914	+23 47 44.4	-10.62	2 5.0
7	5 41 23.90	7.064	24 31 30.5	3.51	2 39.1	7	7 8 18.93	6.905	23 43 24.3	11.06	2 3.8
8	5 44 13.43	7.063	24 32 49.1	3.03	2 38.0	8	7 11 4.53	6.896	23 38 53.6	11.50	2 2.6
9	5 47 2.96	7.063	24 33 56.0	2.54	2 36.9	9	7 13 49.91	6.886	23 34 12.3	11.94	2 1.4
10	5 49 52.47	7.062	24 34 51.4	2.06	2 35.8	10	7 16 35.06	6.876	23 29 20.5	12.38	2 0.2
11	5 52 41.97	+7.061	+24 35 35.1	+1.58	2 34.6	11	7 19 19.98	+6.866	+23 24 18.2	-12.81	1 59.0
12	5 55 31.43	7.059	24 36 7.2	1.09	2 33.5	12	7 22 4.66	6.856	23 19 5.4	13.24	1 57.8
13	5 58 20.85	7.057	24 36 27.8	0.61	2 32.4	13	7 24 49.09	6.846	23 13 42.3	13.67	1 56.6
14	6 1 10.23	7.055	24 36 36.8	+0.13	2 31.3	14	7 27 33.27	6.836	23 8 8.9	14.10	1 55.4
15	6 3 59.55	7.053	24 36 34.2	-0.35	2 30.2	15	7 30 17.19	6.826	23 2 25.3	14.53	1 54.2
16	6 6 48.81	+7.051	+24 36 20.1	-0.83	2 29.0	16	7 33 0.85	+6.814	+22 56 31.6	-14.95	1 53.0
17	6 9 38.00	7.048	24 35 54.3	1.31	2 27.9	17	7 35 44.23	6.802	22 50 27.8	15.37	1 51.8
18	6 12 27.10	7.044	24 35 17.1	1.79	2 26.8	18	7 38 27.34	6.790	22 44 14.0	15.78	1 50.6
19	6 15 16.11	7.040	24 34 28.4	2.27	2 25.7	19	7 41 10.16	6.778	22 37 50.2	16.19	1 49.4
20	6 18 5.02	7.036	24 33 28.2	2.75	2 24.6	20	7 43 52.70	6.766	22 31 16.7	16.60	1 48.1
21	6 20 53.82	+7.031	+24 32 16.6	-3.22	2 23.4	21	7 46 34.95	+6.754	+22 24 33.3	-17.00	1 46.9
22	6 23 42.49	7.026	24 30 53.5	3.70	2 22.3	22	7 49 16.90	6.742	22 17 40.3	17.40	1 45.7
23	6 26 31.03	7.020	24 29 19.0	4.17	2 21.2	23	7 51 58.55	6.730	22 10 37.7	17.80	1 44.4
24	6 29 19.44	7.014	24 27 33.2	4.64	2 20.0	24	7 54 39.90	6.717	22 3 25.6	18.20	1 43.2
25	6 32 7.70	7.008	24 25 36.1	5.11	2 18.9	25	7 57 20.95	6.704	21 56 4.0	18.59	1 41.9
26	6 34 55.81	+7.001	+24 23 27.7	-5.58	2 17.7	26	8 0 1.69	+6.692	+21 48 33.1	-18.98	1 40.7
27	6 37 43.75	6.994	24 21 8.0	6.05	2 16.6	27	8 2 42.12	6.679	21 40 52.9	19.36	1 39.4
28	6 40 31.53	6.987	24 18 37.2	6.52	2 15.5	28	8 5 22.24	6.666	21 33 3.5	19.74	1 38.1
29	6 43 19.13	6.980	24 15 55.3	6.98	2 14.3	29	8 8 2.05	6.653	21 25 5.0	20.12	1 36.8
30	6 46 6.54	6.972	24 13 2.3	7.44	2 13.2	30	8 10 41.55	6.640	21 16 57.4	20.50	1 35.5
31	6 48 53.78	+6.964	+24 9 58.2	-7.90	2 12.0	31	8 13 20.76	+6.627	+21 8 40.9	-20.87	1 34.3
32	6 51 40.83	+6.956	+24 6 43.1	-8.36	2 10.9	32	8 15 59.64	+6.614	+21 0 15.6	-21.24	1 32.9

Day of the Month.	5th.	10th.	15th.	20th.	25th.	30th.	Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.
Semidiameter . .	2.2	2.2	2.1	2.1	2.1	2.1	Semidiameter	2.1	2.1	2.0	2.0	2.0	2.0
Hor. Parallax . .	4.0	3.9	3.9	3.8	3.8	3.7	Hor. Parallax	3.7	3.6	3.6	3.5	3.5	3.5

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	8 13 20.76	+6.637	+21 8 40.9	-20.87	1 34.2	1	9 33 2.51	+6.233	+15 45 47.3	-30.00	0 51.7
2	8 15 59.64	6.614	21 0 15.6	21.34	1 32.9	2	9 35 31.96	6.231	15 33 29.9	30.85	0 50.2
3	8 18 38.21	6.601	20 51 41.4	21.61	1 31.6	3	9 38 1.13	6.210	15 21 6.4	31.10	0 48.8
4	8 21 16.48	6.588	20 42 58.4	21.97	1 30.3	4	9 40 30.04	6.199	15 8 37.0	31.35	0 47.3
5	8 23 54.45	6.575	20 34 6.8	22.33	1 29.0	5	9 42 58.69	6.188	14 56 1.7	31.59	0 45.9
6	8 26 32.10	+6.562	+20 25 6.7	-22.68	1 27.7	6	9 45 27.09	+6.177	+14 43 20.5	-31.83	0 44.4
7	8 29 9.45	6.549	20 15 58.0	23.03	1 26.4	7	9 47 55.23	6.167	14 30 33.7	32.07	0 42.9
8	8 31 46.49	6.536	20 6 41.0	23.38	1 25.1	8	9 50 23.13	6.157	14 17 41.2	32.30	0 41.5
9	8 34 23.22	6.524	19 57 15.6	23.73	1 23.7	9	9 52 50.78	6.147	14 4 43.1	32.53	0 40.0
10	8 36 59.65	6.511	19 47 42.0	24.07	1 22.4	10	9 55 18.18	6.137	13 51 39.7	32.75	0 38.5
11	8 39 35.77	+6.498	+19 38 0.2	-24.40	1 21.0	11	9 57 45.34	+6.127	+13 38 30.9	-32.97	0 37.0
12	8 42 11.57	6.485	19 28 10.4	24.73	1 19.7	12	10 0 12.27	6.117	13 25 16.9	33.19	0 35.5
13	8 44 47.06	6.472	19 18 12.6	25.06	1 18.3	13	10 2 38.96	6.107	13 11 57.7	33.40	0 34.0
14	8 47 22.24	6.459	19 8 6.9	25.39	1 17.0	14	10 5 5.42	6.097	12 58 33.5	33.61	0 32.5
15	8 49 57.10	6.446	18 57 53.5	25.72	1 15.6	15	10 7 31.65	6.088	12 45 4.3	33.81	0 31.0
16	8 52 31.66	+6.433	+18 47 32.3	-26.03	1 14.3	16	10 9 57.65	+6.079	+12 31 30.4	-34.01	0 29.5
17	8 55 5.90	6.420	18 37 3.6	26.34	1 12.9	17	10 12 23.42	6.070	12 17 51.7	34.21	0 28.0
18	8 57 39.82	6.407	18 26 27.4	26.65	1 11.5	18	10 14 48.98	6.061	12 4 8.3	34.40	0 26.5
19	9 0 13.43	6.394	18 15 43.8	26.96	1 10.1	19	10 17 14.33	6.052	11 50 20.4	34.59	0 25.0
20	9 2 46.72	6.381	18 4 52.9	27.27	1 8.7	20	10 19 39.46	6.043	11 36 28.1	34.77	0 23.5
21	9 5 19.71	+6.368	+17 53 54.8	-27.58	1 7.3	21	10 22 4.38	+6.034	+11 22 31.4	-34.95	0 22.0
22	9 7 52.37	6.355	17 42 49.6	27.85	1 5.9	22	10 24 29.10	6.026	11 8 30.5	35.13	0 20.4
23	9 10 24.73	6.342	17 31 37.4	28.14	1 4.5	23	10 26 53.63	6.018	10 54 25.4	35.30	0 18.9
24	9 12 56.78	6.329	17 20 18.3	28.43	1 3.1	24	10 29 17.98	6.010	10 40 16.2	35.47	0 17.3
25	9 15 28.53	6.317	17 8 52.4	28.72	1 1.7	25	10 31 42.14	6.003	10 26 3.0	35.63	0 15.8
26	9 17 59.98	+6.304	+16 57 19.8	-29.00	1 0.3	26	10 34 6.12	+5.996	+10 11 45.9	-35.79	0 14.3
27	9 20 31.12	6.292	16 45 40.5	29.28	0 58.9	27	10 36 29.93	5.989	9 57 24.9	35.95	0 12.7
28	9 23 1.97	6.280	16 33 54.6	29.55	0 57.5	28	10 38 53.58	5.980	9 43 0.1	36.11	0 11.2
29	9 25 32.53	6.268	16 22 2.3	29.82	0 56.1	29	10 41 17.07	5.976	9 28 31.7	36.28	0 9.6
30	9 28 2.80	6.256	16 10 3.6	30.08	0 54.6	30	10 43 40.42	5.970	9 13 59.7	36.41	0 8.1
31	9 30 32.79	+6.244	+15 57 58.6	-30.34	0 53.1	31	10 46 3.62	+5.964	+ 8 59 24.2	-36.55	0 6.5
32	9 33 2.51	+6.232	+15 45 47.3	-30.60	0 51.7	32	10 48 26.68	+5.958	+ 8 44 45.2	-36.69	0 5.0

Day of the Month.	4th.	9th.	14th.	19th.	24th.	29th.	Day of the Month.	3d.	8th.	13th.	18th.	23d.	28th.
Semidiameter . .	2.0	2.0	1.9	1.9	1.9	1.9	Semidiameter . .	1.9	1.9	1.9	1.9	1.9	1.9
Hor. Parallax . .	3.4	3.4	3.4	3.4	3.4	3.3	Hor. Parallax . .	3.3	3.3	3.3	3.3	3.3	3.3

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.							
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.		
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.	Noon.			
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1 10 48 26.68	+5.958	+8 44 45.2	-36.69	0 5.0	1 11 59 22.52	+5.902	+1 6 11.2	-39.15	23 16.0				
2 10 50 49.62	5.953	8 30 2.8	36.83	0 3.4	2 12 1 44.17	5.904	0 50 31.0	39.18	23 14.5				
3 10 53 12.43	5.948	8 15 17.1	36.97	0 1.8	3 12 4 5.88	5.906	0 34 50.3	39.20	23 12.9				
4 10 55 35.13	5.943	8 0 28.3	37.10	0 0.3	4 12 6 27.66	5.909	0 19 9.2	39.22	23 11.3				
5 10 57 57.72	5.938	7 45 36.3	37.23	23 57.2	5 12 8 49.52	5.912	+0 3 27.6	39.23	23 9.7				
6 11 0 20.19	+5.934	+7 30 41.4	-37.35	23 55.6	6 12 11 11.45	+5.915	-0 12 14.2	-39.24	23 8.1				
7 11 2 42.57	5.930	7 15 43.5	37.47	23 54.0	7 12 13 33.47	5.919	0 27 56.2	39.25	23 6.6				
8 11 5 4.85	5.926	7 0 42.8	37.59	23 52.4	8 12 15 55.58	5.923	0 43 38.3	39.25	23 5.0				
9 11 7 27.03	5.922	6 45 39.4	37.70	23 50.8	9 12 18 17.78	5.927	0 59 20.3	39.24	23 3.5				
10 11 9 49.13	5.918	6 30 33.3	37.80	23 49.3	10 12 20 40.07	5.931	1 15 2.1	39.23	23 1.9				
11 11 12 11.15	+5.915	+6 15 24.8	-37.90	23 47.7	11 12 23 2.47	+5.935	-1 30 43.7	-39.22	23 0.4				
12 11 14 33.09	5.912	6 0 13.8	38.00	23 46.1	12 12 25 24.98	5.940	1 46 25.0	39.21	22 58.6				
13 11 16 54.95	5.909	5 45 0.5	38.10	23 44.5	13 12 27 47.60	5.945	2 2 5.7	39.19	22 57.2				
14 11 19 16.74	5.906	5 29 45.0	38.19	23 42.9	14 12 30 10.33	5.950	2 17 45.9	39.16	22 55.7				
15 11 21 38.46	5.904	5 14 27.4	38.28	23 41.3	15 12 32 33.20	5.955	2 33 25.3	39.13	22 54.1				
16 11 24 0.13	+5.902	+4 59 7.8	-38.36	23 39.8	16 12 34 56.20	+5.961	-2 49 4.0	-39.09	22 52.6				
17 11 26 21.74	5.900	4 43 40.2	38.44	23 38.2	17 12 37 19.35	5.967	3 4 41.8	39.05	22 51.0				
18 11 28 43.30	5.896	4 28 22.8	38.51	23 36.6	18 12 39 42.63	5.973	3 20 18.7	39.01	22 49.4				
19 11 31 4.83	5.897	4 12 57.6	38.58	23 35.0	19 12 42 6.07	5.980	3 35 54.4	38.96	22 47.8				
20 11 33 26.32	5.896	3 57 30.9	38.65	23 33.4	20 12 44 29.66	5.987	3 51 29.0	38.91	22 46.3				
21 11 35 47.79	+5.895	+3 42 2.5	-38.71	23 31.8	21 12 46 53.41	+5.994	-4 7 2.3	-38.86	22 44.7				
22 11 38 9.24	5.894	3 26 32.7	38.77	23 30.3	22 12 49 17.33	6.001	4 22 34.3	38.80	22 43.2				
23 11 40 30.67	5.893	3 11 1.5	38.83	23 28.7	23 12 51 41.44	6.008	4 38 4.8	38.74	22 41.6				
24 11 42 52.09	5.893	2 55 29.0	38.88	23 27.1	24 12 54 5.73	6.016	4 53 33.8	38.67	22 40.1				
25 11 45 13.51	5.894	2 39 55.2	38.93	23 25.5	25 12 56 30.22	6.024	5 9 1.1	38.60	22 38.6				
26 11 47 34.94	+5.894	+2 24 20.3	-38.98	23 23.9	26 12 58 54.91	+6.033	-5 24 26.8	-38.53	22 37.1				
27 11 49 56.39	5.895	2 8 44.3	39.02	23 22.4	27 13 1 19.81	6.042	5 39 50.6	38.45	22 35.6				
28 11 52 17.87	5.896	1 53 7.3	39.06	23 20.8	28 13 3 44.94	6.051	5 55 12.6	38.37	22 34.1				
29 11 54 39.38	5.898	1 37 29.4	39.09	23 19.2	29 13 6 10.28	6.061	6 10 32.6	38.28	22 32.6				
30 11 57 0.93	5.900	1 21 50.7	39.12	23 17.6	30 13 8 35.86	6.071	6 25 50.5	38.19	22 31.1				
31 11 59 22.52	+5.902	+1 6 11.2	-39.15	23 16.0	31 13 11 1.68	+6.081	-6 41 6.2	-38.10	22 29.6				
32 12 1 44.17	+5.904	+0 50 31.0	-39.18	23 14.5	32 13 13 27.74	+6.091	-6 56 19.6	-38.01	22 28.1				
Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.	Day of the Month.	2d.	7th.	12th.	17th.	22d.	27th.
Semidiameter . .	1.9	1.9	1.9	1.9	1.9	1.9	Semidiameter . . .	1.9	1.9	1.9	1.9	2.0	2.0
Hor. Parallax . .	3.3	3.3	3.3	3.3	3.3	3.3	Hor. Parallax . . .	3.4	3.4	3.4	3.4	3.5	3.5

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.				
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m			
1	13 13 27.74	+6.091	- 6 56 19.6	-38.01	22 28.1	1	14 28 48.02	+6.408	-14 5 47.3	-32.86	21 45.3			
2	13 15 54.06	6.102	7 11 30.6	37.91	22 26.6	2	14 31 24.17	6.515	14 18 53.2	32.62	21 43.9			
3	13 18 20.63	6.113	7 26 39.1	37.80	22 25.1	3	14 34 0.73	6.532	14 31 53.3	32.37	21 42.6			
4	13 20 47.46	6.124	7 41 45.0	37.69	22 23.6	4	14 36 37.69	6.549	14 44 47.2	32.11	21 41.3			
5	13 23 14.56	6.135	7 56 48.1	37.57	22 22.1	5	14 39 15.06	6.566	14 57 35.0	31.85	21 40.0			
6	13 25 41.93	+6.146	- 8 11 48.3	-37.45	22 20.6	6	14 41 52.83	+6.583	-15 10 16.5	-31.59	21 38.7			
7	13 28 9.58	6.156	8 26 45.6	37.33	22 19.1	7	14 44 31.02	6.600	15 22 51.4	31.32	21 37.4			
8	13 30 37.50	6.170	8 41 39.8	37.20	22 17.6	8	14 47 9.62	6.617	15 35 10.8	31.04	21 36.1			
9	13 33 5.71	6.182	8 56 30.8	37.06	22 16.2	9	14 49 48.62	6.634	15 47 41.5	30.76	21 34.8			
10	13 35 34.20	6.194	9 11 18.4	36.92	22 14.7	10	14 52 28.05	6.651	15 59 56.4	30.47	21 33.5			
11	13 38 2.99	+6.206	- 9 26 2.5	-36.78	22 13.3	11	14 55 7.88	+6.668	-16 12 4.2	-30.18	21 32.3			
12	13 40 32.07	6.218	9 40 43.1	36.63	22 11.8	12	14 57 48.13	6.686	16 24 5.0	29.88	21 31.0			
13	13 43 1.45	6.231	9 55 19.9	36.47	22 10.4	13	15 0 28.80	6.703	16 35 58.6	29.58	21 29.7			
14	13 45 31.13	6.244	10 9 52.9	36.30	22 9.0	14	15 3 9.88	6.720	16 47 44.8	29.27	21 28.5			
15	13 48 1.13	6.257	10 24 22.0	36.13	22 7.5	15	15 5 51.39	6.738	16 59 23.6	28.96	21 27.2			
16	13 50 31.44	+6.270	-10 38 47.1	-35.96	22 6.1	16	15 8 33.32	+6.755	-17 10 54.8	-28.64	21 26.0			
17	13 53 2.07	6.283	10 53 8.0	35.78	22 4.6	17	15 11 15.66	6.773	17 22 18.3	28.32	21 24.8			
18	13 55 33.03	6.297	11 7 24.7	35.60	22 3.2	18	15 13 58.43	6.791	17 33 34.0	27.99	21 23.6			
19	13 58 4.32	6.311	11 21 37.0	35.42	22 1.8	19	15 16 41.64	6.809	17 44 41.8	27.66	21 22.4			
20	14 0 35.95	6.325	11 35 44.9	35.23	22 0.4	20	15 19 25.28	6.827	17 55 41.7	27.32	21 21.2			
21	14 3 7.93	+6.340	-11 49 48.2	-35.04	21 59.0	21	15 22 9.35	+6.845	-18 6 33.4	-26.98	21 20.0			
22	14 5 40.26	6.355	12 3 46.9	34.85	21 57.6	22	15 24 53.85	6.864	18 17 16.9	26.64	21 18.8			
23	14 8 12.94	6.370	12 17 40.8	34.65	21 56.2	23	15 27 38.80	6.882	18 27 52.0	26.30	21 17.6			
24	14 10 45.99	6.385	12 31 29.8	34.44	21 54.8	24	15 30 24.18	6.900	18 38 18.6	25.93	21 16.4			
25	14 13 19.42	6.400	12 45 13.8	34.23	21 53.4	25	15 33 10.00	6.919	18 48 36.7	25.57	21 15.2			
26	14 15 53.21	+6.416	-12 58 52.8	-34.02	21 52.1	26	15 35 56.27	+6.937	-18 58 46.1	-25.21	21 14.1			
27	14 18 27.39	6.432	13 12 26.5	33.80	21 50.7	27	15 38 42.98	6.955	19 8 46.7	24.84	21 12.9			
28	14 21 1.96	6.448	13 25 55.0	33.57	21 49.3	28	15 41 30.13	6.973	19 18 38.4	24.46	21 11.8			
29	14 23 36.92	6.464	13 39 18.0	33.34	21 48.0	29	15 44 17.72	6.992	19 28 21.0	24.06	21 10.6			
30	14 26 12.27	6.481	13 52 35.5	33.10	21 46.6	30	15 47 5.75	7.010	19 37 54.5	23.70	21 9.5			
31	14 28 48.02	+6.498	-14 5 47.3	-32.86	21 45.3	31	15 49 54.22	+7.028	-19 47 18.6	-23.31	21 8.4			
32	14 31 24.17	+6.515	-14 18 53.2	-32.62	21 43.9	32	15 52 43.12	+7.046	-19 56 33.4	-22.92	21 7.2			
Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	Day of the Month.	1st.	6th.	11th.	16th.	21st.	26th.	31st.
Semidiameter . .	2'.0	2'.0	2'.0	2'.0	2'.1	2'.1	Semidiameter . .	2'.1	2'.1	2'.2	2'.2	2'.3	2'.3	2'.3
Hor. Parallax . .	3.5	3.5	3.5	3.6	3.6	3.7	Hor. Parallax . .	3.7	3.8	3.8	3.9	3.9	4.0	4.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	1 0 29.17	+0.691	+5 3 32.7	+5.11	6 14.1	1	1 14 6.81	+1.482	+6 36 20.3	+9.51	4 25.8
2	1 0 46.11	0.790	5 5 37.3	5.98	6 10.4	2	1 14 42.12	1.482	6 40 9.7	9.62	4 22.5
3	1 1 3.74	0.749	5 7 46.1	5.45	6 6.8	3	1 15 17.92	1.503	6 44 1.7	9.72	4 19.1
4	1 1 22.05	0.779	5 9 59.0	5.69	6 3.2	4	1 15 54.19	1.522	6 47 56.2	9.82	4 15.8
5	1 1 41.03	0.805	5 12 15.9	5.79	5 59.6	5	1 16 30.93	1.541	6 51 53.1	9.92	4 12.5
6	1 2 0.69	+0.833	+5 14 36.7	+5.98	5 56.0	6	1 17 8.13	+1.560	+6 55 52.3	+10.02	4 9.2
7	1 2 21.01	0.860	5 17 1.5	6.12	5 52.4	7	1 17 45.78	1.579	6 59 53.9	10.12	4 5.9
8	1 2 41.99	0.888	5 19 30.2	6.28	5 48.8	8	1 18 23.90	1.598	7 3 57.7	10.21	4 2.6
9	1 3 3.62	0.915	5 22 2.7	6.44	5 45.2	9	1 19 2.45	1.616	7 8 3.7	10.30	3 59.3
10	1 3 25.90	0.942	5 24 39.1	6.59	5 41.7	10	1 19 41.45	1.634	7 12 11.9	10.39	3 56.0
11	1 3 48.83	+0.969	+5 27 19.2	+6.75	5 38.1	11	1 20 20.88	+1.652	+7 16 22.2	+10.48	3 52.7
12	1 4 12.38	0.995	5 30 2.9	6.90	5 34.6	12	1 21 0.73	1.669	7 20 34.7	10.56	3 49.4
13	1 4 36.57	1.021	5 32 50.5	7.05	5 31.0	13	1 21 41.01	1.687	7 24 49.2	10.64	3 46.1
14	1 5 1.39	1.047	5 35 41.7	7.20	5 27.5	14	1 22 21.69	1.704	7 29 5.6	10.72	3 42.9
15	1 5 26.82	1.073	5 38 36.4	7.35	5 24.0	15	1 23 2.79	1.721	7 33 24.0	10.80	3 39.7
16	1 5 52.86	+1.098	+5 41 34.6	+7.50	5 20.5	16	1 23 44.28	+1.737	+7 37 44.2	+10.88	3 36.4
17	1 6 19.51	1.123	5 44 36.3	7.64	5 17.0	17	1 24 26.17	1.753	7 42 6.2	10.96	3 33.2
18	1 6 46.76	1.148	5 47 41.5	7.78	5 13.5	18	1 25 8.45	1.769	7 46 30.0	11.03	3 30.0
19	1 7 14.60	1.172	5 50 50.0	7.92	5 10.1	19	1 25 51.11	1.785	7 50 55.5	11.10	3 26.8
20	1 7 43.02	1.196	5 54 1.8	8.06	5 6.6	20	1 26 34.13	1.801	7 55 22.7	11.17	3 23.5
21	1 8 12.02	+1.220	+5 57 16.9	+8.20	5 3.2	21	1 27 17.53	+1.816	+7 59 51.5	+11.23	3 20.3
22	1 8 41.58	1.243	6 0 35.2	8.33	4 59.7	22	1 28 1.28	1.831	8 4 21.8	11.29	3 17.1
23	1 9 11.71	1.266	6 3 56.6	8.46	4 56.3	23	1 28 45.39	1.845	8 8 53.5	11.35	3 13.9
24	1 9 42.39	1.289	6 7 21.1	8.59	4 52.9	24	1 29 29.84	1.859	8 13 26.8	11.41	3 10.7
25	1 10 13.61	1.312	6 10 48.6	8.72	4 49.5	25	1 30 14.63	1.873	8 18 1.3	11.47	3 7.5
26	1 10 45.37	+1.334	+6 14 19.0	+8.84	4 46.0	26	1 30 59.75	+1.887	+8 22 37.2	+11.52	3 4.3
27	1 11 17.66	1.356	6 17 52.3	8.96	4 42.7	27	1 31 45.20	1.900	8 27 14.5	11.57	3 1.2
28	1 11 50.47	1.378	6 21 28.5	9.07	4 39.3	28	1 32 30.97	1.913	8 31 52.9	11.62	2 58.0
29	1 12 23.80	1.399	6 25 7.4	9.18	4 35.9	29	1 33 17.06	1.926	8 36 32.5	11.67	2 54.8
30	1 12 57.64	1.420	6 28 49.0	9.29	4 32.5	30	1 34 3.45	1.939	8 41 13.3	11.72	2 51.6
31	1 13 31.98	+1.441	+6 32 33.3	+9.40	4 29.2	31	1 34 50.15	+1.952	+8 45 55.1	+11.77	2 48.5
32	1 14 6.81	+1.462	+6 36 20.3	+9.51	4 25.8	32	1 35 37.15	+1.965	+8 50 38.0	+11.81	2 45.3
Day of the Month.		2d.	10th.	18th.	26th.	Day of the Month.		3d.	11th.	19th.	27th.
Polar Semidiameter . .		19'6	19'1	18'6	18'2	Polar Semidiameter . .		17'8	17'4	17'1	16'8
Horizontal Parallax . .		1.8	1.8	1.7	1.7	Horizontal Parallax . .		1.7	1.6	1.6	1.6

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	1 33 17.06	+1.996	+ 8 36 32.5	+11.67	2 54.8	1	1 59 13.72	+2.323	+11 7 0.1	+12.31	1 18.8
2	1 34 3.45	1.939	8 41 13.3	11.72	2 51.6	2	2 0 7.14	2.229	11 11 55.5	12.30	1 15.7
3	1 34 50.15	1.952	8 45 55.1	11.77	2 48.5	3	2 1 0.70	2.235	11 16 50.8	12.30	1 12.7
4	1 35 37.15	1.965	8 50 38.0	11.81	2 45.3	4	2 1 54.41	2.241	11 21 45.8	12.29	1 9.7
5	1 36 24.44	1.977	8 55 21.9	11.85	2 42.1	5	2 2 48.26	2.247	11 26 40.7	12.28	1 6.6
6	1 37 12.02	+1.989	+ 9 0 6.8	+11.89	2 39.0	6	2 3 42.24	+2.252	+11 31 35.3	+12.27	1 3.6
7	1 37 59.88	2.001	9 4 52.7	11.93	2 35.9	7	2 4 36.35	2.277	11 36 29.6	12.26	1 0.5
8	1 38 48.03	2.012	9 9 39.4	11.97	2 32.7	8	2 5 30.59	2.292	11 41 23.6	12.25	0 57.5
9	1 39 36.45	2.023	9 14 27.0	12.01	2 29.6	9	2 6 24.95	2.267	11 46 17.3	12.23	0 54.5
10	1 40 25.14	2.034	9 19 15.4	12.04	2 26.5	10	2 7 19.43	2.272	11 51 10.6	12.21	0 51.4
11	1 41 14.09	+2.045	+ 9 24 4.6	+12.07	2 23.4	11	2 8 14.02	+2.277	+11 56 3.5	+12.20	0 48.4
12	1 42 3.30	2.056	9 28 54.5	12.10	2 20.3	12	2 9 8.72	2.282	12 0 56.0	12.18	0 45.4
13	1 42 52.77	2.067	9 33 45.1	12.13	2 17.2	13	2 10 3.53	2.286	12 5 48.0	12.16	0 42.4
14	1 43 42.49	2.077	9 38 36.4	12.15	2 14.1	14	2 10 58.43	2.290	12 10 39.5	12.14	0 39.4
15	1 44 32.45	2.087	9 43 28.3	12.18	2 11.0	15	2 11 53.43	2.294	12 15 30.4	12.12	0 36.3
16	1 45 22.65	+2.097	+ 9 48 20.7	+12.20	2 7.9	16	2 12 48.52	+2.297	+12 20 20.7	+12.09	0 33.3
17	1 46 13.09	2.106	9 53 13.7	12.22	2 4.8	17	2 13 43.69	2.301	12 25 10.5	12.06	0 30.3
18	1 47 3.75	2.115	9 58 7.1	12.24	2 1.7	18	2 14 38.93	2.304	12 29 59.5	12.03	0 27.3
19	1 47 54.63	2.124	10 3 1.0	12.26	1 58.6	19	2 15 34.25	2.307	12 34 47.9	12.00	0 24.3
20	1 48 45.73	2.133	10 7 55.2	12.27	1 55.5	20	2 16 29.64	2.310	12 39 35.6	11.97	0 21.3
21	1 49 37.04	+2.142	+10 12 49.8	+12.28	1 52.4	21	2 17 25.00	+2.312	+12 44 22.5	+11.94	0 18.3
22	1 50 28.55	2.151	10 17 44.7	12.29	1 49.3	22	2 18 20.60	2.314	12 49 8.5	11.90	0 15.2
23	1 51 20.26	2.159	10 22 39.8	12.30	1 46.3	23	2 19 16.17	2.316	12 53 53.8	11.87	0 12.2
24	1 52 12.16	2.167	10 27 35.1	12.31	1 43.2	24	2 20 11.78	2.318	12 58 38.3	11.84	0 9.2
25	1 53 4.24	2.175	10 32 30.6	12.31	1 40.2	25	2 21 7.43	2.320	13 3 21.8	11.80	0 6.2
26	1 53 56.52	+2.182	+10 37 26.2	+12.32	1 37.1	26	2 22 3.14	+2.322	+13 8 4.5	+11.76	0 3.2
27	1 54 48.97	2.189	10 42 21.9	12.32	1 34.1	27	2 22 58.87	2.323	13 12 46.2	11.72	0 0.2
28	1 55 41.59	2.196	10 47 17.6	12.32	1 31.1	28	2 23 54.63	2.324	13 17 27.0	11.68	23 54.2
29	1 56 34.38	2.203	10 52 13.3	12.32	1 28.0	29	2 24 50.43	2.325	13 22 6.8	11.64	23 51.2
30	1 57 27.34	2.210	10 57 9.0	12.32	1 24.9	30	2 25 46.25	2.326	13 26 45.6	11.60	23 48.2
31	1 58 20.46	+2.217	+11 2 4.6	+12.31	1 21.9	31	2 26 42.09	+2.327	+13 31 23.4	+11.55	23 45.2
32	1 59 13.72	+2.223	+11 7 0.1	+12.31	1 18.8	32	2 27 37.94	+2.327	+13 36 0.2	+11.51	23 42.2
Day of the Month.		7th.	15th.	23d.	31st.	Day of the Month.		8th.	16th.	24th.	32d.
Polar Semidiameter .		16.5	16.3	16.1	16.0	Polar Semidiameter . .		15.9	15.8	15.7	15.7
Horizontal Parallax .		1.6	1.5	1.5	1.5	Horizontal Parallax . .		1.5	1.5	1.5	1.5

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"			h m s	s	° ' "	"	
1	2 26 42.09	+2.327	+13 31 23.4	+11.55	23 45.2	1	2 55 19.03	+2.256	+15 44 22.4	+9.75	22 11.8
2	2 27 37.94	2.327	13 36 0.2	11.51	23 42.2	2	2 56 13.11	2.251	15 48 15.5	9.68	22 8.7
3	2 28 33.81	2.328	13 40 35.9	11.47	23 39.1	3	2 57 7.06	2.245	15 52 6.9	9.61	22 5.7
4	2 29 29.69	2.328	13 45 10.5	11.42	23 36.1	4	2 58 0.87	2.239	15 55 56.6	9.54	22 2.6
5	2 30 25.57	2.328	13 49 44.0	11.38	23 33.1	5	2 58 54.54	2.233	15 59 44.6	9.47	21 59.6
6	2 31 21.45	+2.328	+13 54 16.3	+11.33	23 30.1	6	2 59 48.07	+2.227	+16 3 30.8	+9.39	21 56.5
7	2 32 17.33	2.328	13 58 47.6	11.28	23 27.1	7	3 0 41.45	2.221	16 7 15.3	9.32	21 53.5
8	2 33 13.21	2.328	14 3 17.6	11.23	23 24.1	8	3 1 34.66	2.214	16 10 58.0	9.25	21 50.4
9	2 34 9.07	2.327	14 7 46.5	11.18	23 21.1	9	3 2 27.71	2.207	16 14 38.8	9.17	21 47.4
10	2 35 4.92	2.327	14 12 14.1	11.13	23 18.1	10	3 3 20.59	2.200	16 18 17.9	9.10	21 44.3
11	2 36 0.74	+2.326	+14 16 40.5	+11.08	23 15.1	11	3 4 13.30	+2.192	+16 21 55.1	+9.02	21 41.3
12	2 36 56.54	2.325	14 21 5.6	11.02	23 12.1	12	3 5 5.82	2.184	16 25 30.5	8.94	21 38.2
13	2 37 52.31	2.323	14 25 29.4	10.96	23 9.1	13	3 5 58.15	2.176	16 29 4.0	8.86	21 35.1
14	2 38 48.04	2.321	14 29 51.9	10.91	23 6.1	14	3 6 50.29	2.168	16 32 35.6	8.78	21 32.0
15	2 39 43.73	2.319	14 34 13.0	10.85	23 3.1	15	3 7 42.23	2.160	16 36 5.3	8.70	21 29.0
16	2 40 39.37	+2.317	+14 38 32.7	+10.79	23 0.1	16	3 8 33.95	+2.151	+16 39 33.0	+8.62	21 25.9
17	2 41 34.96	2.315	14 42 51.0	10.73	22 57.1	17	3 9 25.47	2.142	16 42 58.8	8.54	21 22.8
18	2 42 30.49	2.313	14 47 7.9	10.67	22 54.1	18	3 10 16.77	2.133	16 46 22.7	8.45	21 19.7
19	2 43 25.95	2.310	14 51 23.3	10.61	22 51.0	19	3 11 7.84	2.123	16 49 44.6	8.37	21 16.7
20	2 44 21.35	2.307	14 55 37.2	10.55	22 48.0	20	3 11 58.67	2.113	16 53 4.5	8.29	21 13.6
21	2 45 16.67	+2.304	+14 59 49.6	+10.49	22 45.0	21	3 12 49.27	+2.103	+16 56 22.4	+8.21	21 10.5
22	2 46 11.92	2.300	15 4 0.6	10.42	22 42.0	22	3 13 39.63	2.093	16 59 38.3	8.13	21 7.4
23	2 47 7.08	2.297	15 8 10.0	10.36	22 38.9	23	3 14 29.74	2.083	17 2 52.3	8.04	21 4.3
24	2 48 2.15	2.293	15 12 17.8	10.30	22 35.9	24	3 15 19.59	2.072	17 6 4.2	7.95	21 1.2
25	2 48 57.13	2.289	15 16 24.0	10.23	22 32.9	25	3 16 9.18	2.061	17 9 14.1	7.87	20 58.1
26	2 49 52.01	+2.285	+15 20 28.7	+10.17	22 29.9	26	3 16 58.51	+2.050	+17 12 22.0	+7.79	20 54.9
27	2 50 46.79	2.281	15 24 31.7	10.10	22 26.9	27	3 17 47.57	2.038	17 15 27.8	7.70	20 51.8
28	2 51 41.47	2.276	15 28 33.1	10.03	22 23.8	28	3 18 36.36	2.027	17 18 31.7	7.62	20 48.7
29	2 52 36.03	2.271	15 32 32.9	9.96	22 20.8	29	3 19 24.86	2.015	17 21 33.4	7.53	20 45.6
30	2 53 30.48	2.266	15 36 31.1	9.89	22 17.8	30	3 20 13.08	2.003	17 24 33.1	7.45	20 42.4
31	2 54 24.82	+2.261	+15 40 27.6	+9.82	22 14.8	31	3 21 1.00	+1.991	+17 27 30.8	+7.37	20 39.3
32	2 55 19.03	+2.256	+15 44 22.4	+9.75	22 11.8	32	3 21 48.62	+1.978	+17 30 26.4	+7.28	20 36.2
Day of the Month.		2d.	10th.	18th.	26th.	Day of the Month.		2d.	11th.	19th.	27th.
Polar Semidiameter . .		15'7	15'8	15'8	15'9	Polar Semidiameter . .		16'0	16'2	16'4	16'6
Horizontal Parallax . .		1.5	1.5	1.5	1.5	Horizontal Parallax . .		1.5	1.5	1.5	1.6

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
Noon.	Noon.	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	Noon.		
h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	3 21 1.00	+1.991	+17 27 30.8	+7.37	20 39.3	1	3 42 42.72	+1.460	+18 41 29.7	+4.53	18 58.8
2	3 21 48.62	1.978	17 30 26.4	7.98	20 36.2	2	3 43 17.50	1.438	18 43 17.4	4.44	18 55.4
3	3 22 35.94	1.965	17 33 19.9	7.19	20 33.0	3	3 43 51.76	1.416	18 45 2.8	4.34	18 52.0
4	3 23 22.95	1.952	17 36 11.4	7.10	20 29.8	4	3 44 25.47	1.393	18 46 46.0	4.25	18 48.7
5	3 24 9.64	1.939	17 39 0.8	7.01	20 26.7	5	3 44 58.63	1.370	18 48 26.9	4.16	18 45.3
6	3 24 56.01	+1.925	+17 41 48.0	+6.92	20 23.5	6	3 45 31.24	+1.347	+18 50 5.5	+4.06	18 41.9
7	3 25 42.04	1.911	17 44 33.1	6.83	20 20.3	7	3 46 3.28	1.323	18 51 41.9	3.97	18 38.5
8	3 26 27.73	1.897	17 47 16.1	6.75	20 17.1	8	3 46 34.74	1.299	18 53 15.9	3.87	18 35.0
9	3 27 13.07	1.882	17 49 57.0	6.66	20 13.9	9	3 47 5.62	1.274	18 54 47.6	3.78	18 31.6
10	3 27 58.06	1.867	17 52 35.8	6.57	20 10.7	10	3 47 35.91	1.249	18 56 17.0	3.68	18 28.2
11	3 28 42.68	+1.852	+17 55 12.3	+6.48	20 7.5	11	3 48 5.59	+1.224	+18 57 44.1	+3.58	18 24.7
12	3 29 26.93	1.837	17 57 46.7	6.39	20 4.3	12	3 48 34.66	1.198	18 59 8.9	3.49	18 21.3
13	3 30 10.80	1.821	18 0 18.9	6.30	20 1.1	13	3 49 3.12	1.173	19 0 31.3	3.39	18 17.8
14	3 30 54.29	1.804	18 2 48.9	6.20	19 57.9	14	3 49 30.95	1.146	19 1 51.5	3.29	18 14.3
15	3 31 37.38	1.787	18 5 16.7	6.11	19 54.7	15	3 49 58.14	1.120	19 3 9.3	3.20	18 10.8
16	3 32 20.07	+1.770	+18 7 42.3	+6.02	19 51.5	16	3 50 24.69	+1.093	+19 4 24.7	+3.10	18 7.3
17	3 33 2.35	1.753	18 10 5.7	5.93	19 48.3	17	3 50 50.59	1.066	19 5 37.9	3.00	18 3.8
18	3 33 44.21	1.735	18 12 26.9	5.84	19 45.1	18	3 51 15.84	1.038	19 6 48.7	2.91	18 0.3
19	3 34 25.65	1.717	18 14 45.9	5.75	19 41.8	19	3 51 40.42	1.010	19 7 57.2	2.81	17 56.8
20	3 35 6.66	1.699	18 17 2.6	5.65	19 38.5	20	3 52 4.33	0.982	19 9 3.4	2.71	17 53.2
21	3 35 47.23	+1.681	+18 19 17.1	+5.56	19 35.2	21	3 52 27.56	+0.954	+19 10 7.3	+2.62	17 49.7
22	3 36 27.36	1.662	18 21 29.4	5.47	19 31.9	22	3 52 50.12	0.926	19 11 8.8	2.52	17 46.1
23	3 37 7.04	1.643	18 23 39.5	5.37	19 28.7	23	3 53 11.98	0.897	19 12 8.1	2.42	17 42.5
24	3 37 46.26	1.624	18 25 47.3	5.28	19 25.4	24	3 53 33.15	0.868	19 13 5.0	2.33	17 38.9
25	3 38 25.01	1.605	18 27 52.9	5.18	19 22.1	25	3 53 53.62	0.838	19 13 59.6	2.23	17 35.4
26	3 39 3.29	+1.585	+18 29 56.3	+5.09	19 18.8	26	3 54 13.38	+0.808	+19 14 51.9	+2.13	17 31.7
27	3 39 41.10	1.565	18 31 57.5	5.00	19 15.5	27	3 54 32.42	0.778	19 15 41.8	2.04	17 28.1
28	3 40 18.43	1.545	18 33 56.4	4.90	19 12.1	28	3 54 50.74	0.748	19 16 29.5	1.94	17 24.5
29	3 40 55.25	1.524	18 35 53.1	4.81	19 8.8	29	3 55 8.32	0.717	19 17 14.8	1.84	17 20.8
30	3 41 31.59	1.503	18 37 47.5	4.72	19 5.5	30	3 55 25.17	0.686	19 17 57.8	1.75	17 17.1
31	3 42 7.41	+1.482	+18 39 39.7	+4.62	19 2.2	31	3 55 41.28	+0.655	+19 18 38.4	+1.65	17 13.5
32	3 42 42.72	+1.460	+18 41 29.7	+4.53	18 58.8	32	3 55 56.63	+0.624	+19 19 16.7	+1.55	17 9.8
Day of the Month.		5th.	13th.	21st.	29th.	Day of the Month.		6th.	14th.	22d.	30th.
Polar Semidiameter . .		16".9	17".2	17".6	17".9	Polar Semidiameter . .		18".3	18".7	19".2	19".7
Horizontal Parallax . .		1.6	1.6	1.6	1.7	Horizontal Parallax . .		1.7	1.8	1.8	1.8

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.										
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.					
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.						
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m					
1	3 55 56.63	+0.084	+19 19 16.7	+1.55	17 9.8	1	3 57 22.15	-0.399	+19 20 4.1	-1.40	15 13.0					
2	3 56 11.22	0.592	19 19 52.6	1.45	17 6.1	2	3 57 12.17	0.423	19 19 29.3	1.50	15 8.9					
3	3 56 25.04	0.560	19 20 26.2	1.35	17 2.4	3	3 57 1.36	0.467	19 18 52.1	1.50	15 4.7					
4	3 56 38.09	0.527	19 20 57.4	1.25	16 58.6	4	3 56 49.74	0.501	19 18 12.6	1.60	15 0.6					
5	3 56 50.36	0.485	19 21 26.3	1.15	16 54.9	5	3 56 37.31	0.535	19 17 30.9	1.79	14 56.5					
6	3 57 1.84	+0.462	+19 21 52.8	+1.05	16 51.2	6	3 56 24.07	-0.569	+19 16 46.8	-1.89	14 52.3					
7	3 57 12.53	0.429	19 22 16.9	0.95	16 47.4	7	3 56 10.02	0.603	19 16 0.4	1.98	14 48.1					
8	3 57 22.42	0.396	19 22 38.6	0.86	16 43.6	8	3 55 55.18	0.636	19 15 11.8	2.06	14 44.0					
9	3 57 31.50	0.362	19 22 57.9	0.76	16 39.8	9	3 55 39.56	0.668	19 14 20.9	2.17	14 39.5					
10	3 57 39.77	0.328	19 23 14.8	0.66	16 36.0	10	3 55 23.15	0.699	19 13 27.8	2.26	14 35.5					
11	3 57 47.23	+0.294	+19 23 29.4	+0.56	16 32.2	11	3 55 5.99	-0.731	+19 12 32.5	-2.35	14 31.3					
12	3 57 53.86	0.260	19 23 41.5	0.46	16 28.4	12	3 54 48.06	0.762	19 11 35.1	2.44	14 27.1					
13	3 57 59.68	0.225	19 23 51.3	0.36	16 24.5	13	3 54 29.40	0.793	19 10 35.5	2.53	14 22.8					
14	3 58 4.67	0.191	19 23 58.7	0.26	16 20.7	14	3 54 9.99	0.823	19 9 33.7	2.62	14 18.6					
15	3 58 8.83	0.156	19 24 3.7	0.16	16 16.8	15	3 53 49.87	0.853	19 8 29.9	2.71	14 14.3					
16	3 58 12.16	+0.121	+19 24 6.3	+0.06	16 12.9	16	3 53 29.04	-0.882	+19 7 24.0	-2.79	14 10.0					
17	3 58 14.66	0.087	19 24 6.5	-0.04	16 9.0	17	3 53 7.52	0.910	19 6 16.0	2.88	14 5.7					
18	3 58 16.33	0.052	19 24 4.5	0.13	16 5.1	18	3 52 45.31	0.938	19 5 6.1	2.96	14 1.4					
19	3 58 17.16	+0.017	19 24 0.1	0.23	16 1.2	19	3 52 22.45	0.966	19 3 54.2	3.04	13 57.1					
20	3 58 17.16	-0.018	19 23 53.3	0.33	15 57.2	20	3 51 58.93	0.993	19 2 40.4	3.12	13 52.8					
21	3 58 16.33	-0.052	+19 23 44.2	-0.43	15 53.3	21	3 51 34.79	-1.019	+19 1 24.7	-3.20	13 48.4					
22	3 58 14.66	0.087	19 23 32.7	0.53	15 49.3	22	3 51 10.02	1.044	19 0 7.1	3.27	13 44.1					
23	3 58 12.17	0.122	19 23 18.9	0.62	15 45.3	23	3 50 44.65	1.068	18 58 47.6	3.35	13 39.8					
24	3 58 8.83	0.187	19 23 2.7	0.72	15 41.3	24	3 50 18.70	1.092	18 57 26.4	3.42	13 35.4					
25	3 58 4.66	0.191	19 22 44.2	0.82	15 37.3	25	3 49 52.19	1.116	18 56 3.5	3.49	13 31.0					
26	3 57 59.65	-0.226	+19 22 23.4	-0.91	15 33.3	26	3 49 25.12	-1.139	+18 54 38.8	-3.56	13 26.6					
27	3 57 53.81	0.261	19 22 0.2	1.01	15 29.3	27	3 48 57.52	1.161	18 53 12.5	3.63	13 22.2					
28	3 57 47.14	0.295	19 21 34.7	1.11	15 25.2	28	3 48 29.40	1.182	18 51 44.5	3.70	13 17.8					
29	3 57 39.64	0.330	19 21 6.8	1.21	15 21.1	29	3 48 0.79	1.202	18 50 15.0	3.77	13 13.4					
30	3 57 31.31	0.365	19 20 36.7	1.30	15 17.1	30	3 47 31.69	1.221	18 48 43.9	3.83	13 9.0					
31	3 57 22.15	-0.399	+19 20 4.1	-1.40	15 13.0	31	3 47 2.14	-1.240	+18 47 11.3	-3.89	13 4.6					
32	3 57 12.17	-0.433	+19 19 29.3	-1.50	15 8.9	32	3 46 32.16	-1.258	+18 45 37.3	-3.95	13 0.2					
Day of the Month.					7th.	15th.	23d.	Day of the Month.					1st.	9th.	17th.	25th.
Polar Semidiameter					20.2	20.7	21.2	Polar Semidiameter					21.7	22.2	22.6	22.9
Horizontal Parallax					1.9	1.9	2.0	Horizontal Parallax					2.0	2.1	2.1	2.2

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	3 46 32.16	-1.968	+18 45 37.3	-3.95	13 0.2	1	3 30 12.38	-1.303	+17 53 43.7	-4.18	10 45.9
2	3 46 1.76	1.975	18 44 1.9	4.01	12 55.7	2	3 29 41.26	1.989	17 52 4.0	4.13	10 41.5
3	3 45 30.97	1.991	18 42 25.2	4.06	12 51.3	3	3 29 10.50	1.974	17 50 25.6	4.08	10 37.0
4	3 44 59.81	1.306	18 40 47.3	4.11	12 46.9	4	3 28 40.13	1.958	17 48 48.4	4.02	10 32.6
5	3 44 28.30	1.390	18 39 8.1	4.16	12 42.3	5	3 28 10.17	1.940	17 47 12.6	3.96	10 28.2
6	3 43 56.48	-1.332	+18 37 28.0	-4.20	12 37.9	6	3 27 40.64	-1.921	+17 45 38.3	-3.90	10 23.8
7	3 43 24.35	1.344	18 35 46.7	4.24	12 33.4	7	3 27 11.56	1.901	17 44 5.6	3.83	10 19.3
8	3 42 51.95	1.355	18 34 4.5	4.28	12 28.9	8	3 26 42.95	1.181	17 42 34.6	3.76	10 14.9
9	3 42 19.31	1.365	18 32 21.4	4.31	12 24.4	9	3 26 14.86	1.160	17 41 5.3	3.68	10 10.6
10	3 41 46.45	1.374	18 30 37.6	4.34	12 19.9	10	3 25 47.28	1.138	17 39 37.9	3.60	10 6.2
11	3 41 13.40	-1.381	+18 28 53.1	-4.37	12 15.5	11	3 25 20.24	-1.115	+17 38 12.5	-3.58	10 1.8
12	3 40 40.18	1.387	18 27 7.9	4.39	12 11.0	12	3 24 53.75	1.091	17 36 49.0	3.43	9 57.4
13	3 40 6.82	1.392	18 25 22.2	4.41	12 6.5	13	3 24 27.84	1.066	17 35 27.6	3.34	9 53.1
14	3 39 33.35	1.396	18 23 36.0	4.43	12 2.0	14	3 24 2.53	1.041	17 34 8.4	3.25	9 48.7
15	3 38 59.80	1.399	18 21 49.4	4.45	11 57.5	15	3 23 37.83	1.016	17 32 51.5	3.16	9 44.4
16	3 38 26.19	-1.401	+18 20 2.5	-4.46	11 53.1	16	3 23 13.76	-0.990	+17 31 36.8	-3.06	9 40.1
17	3 37 52.55	1.409	18 18 15.5	4.47	11 48.6	17	3 22 50.34	0.963	17 30 24.5	2.96	9 35.8
18	3 37 18.90	1.409	18 16 28.4	4.47	11 44.1	18	3 22 27.57	0.935	17 29 14.6	2.86	9 31.5
19	3 36 45.27	1.401	18 14 41.2	4.46	11 39.6	19	3 22 5.47	0.907	17 28 7.2	2.76	9 27.2
20	3 36 11.69	1.398	18 12 54.0	4.46	11 35.1	20	3 21 44.05	0.878	17 27 2.4	2.65	9 22.9
21	3 35 38.18	-1.394	+18 11 7.0	-4.45	11 30.6	21	3 21 23.35	-0.849	+17 26 0.2	-2.54	9 18.6
22	3 35 4.76	1.390	18 9 20.3	4.44	11 26.1	22	3 21 3.31	0.819	17 25 0.6	2.43	9 14.4
23	3 34 31.47	1.385	18 7 33.8	4.43	11 21.6	23	3 20 44.02	0.789	17 24 3.7	2.32	9 10.1
24	3 33 58.32	1.378	18 5 47.7	4.41	11 17.2	24	3 20 25.45	0.758	17 23 9.6	2.20	9 5.9
25	3 33 25.34	1.370	18 4 2.2	4.39	11 12.7	25	3 20 7.63	0.727	17 22 18.2	2.08	9 1.7
26	3 32 52.56	-1.361	+18 2 17.2	-4.36	11 8.2	26	3 19 50.55	-0.696	+17 21 29.7	-1.96	8 57.5
27	3 32 19.99	1.359	18 0 32.8	4.33	11 3.7	27	3 19 34.22	0.664	17 20 44.0	1.84	8 53.3
28	3 31 47.66	1.349	17 58 49.2	4.30	10 59.3	28	3 19 18.66	0.632	17 20 1.3	1.72	8 49.1
29	3 31 15.60	1.330	17 57 6.4	4.26	10 54.8	29	3 19 3.88	0.600	17 19 21.6	1.60	8 44.9
30	3 30 43.83	1.317	17 55 24.5	4.22	10 50.4	30	3 18 49.88	0.567	17 18 44.8	1.47	8 40.7
31	3 30 12.38	-1.303	+17 53 43.7	-4.18	10 45.9	31	3 18 36.67	-0.534	+17 18 11.1	-1.34	8 36.6
32	3 29 41.26	-1.989	+17 52 4.0	-4.13	10 41.5	32	3 18 24.26	-0.500	+17 17 40.4	-1.21	8 32.4

Day of the Month.	2d.	10th.	18th.	26th.	Day of the Month.	4th.	12th.	20th.	28th.	36th.
Polar Semidiameter . .	23' 2	23' 3	23' 4	23' 3	Polar Semidiameter . .	23' 1	22' 8	22' 4	22' 0	21' 5
Horizontal Parallax . .	2.2	2.2	2.2	2.2	Horizontal Parallax . .	2.2	2.1	2.1	2.1	2.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m		^h ^m ^s	^s	[°] ['] ["]	["]	^h ^m
1	12 49 33.87	+0.348	-2 42 47.9	-1.41	18 1.3	1	12 50 40.13	-0.108	-2 40 15.7	+1.79	16 0.3
2	12 49 41.80	0.306	2 43 20.4	1.30	17 57.5	2	12 50 35.96	0.108	2 39 31.7	1.80	15 56.3
3	12 49 49.53	0.311	2 43 50.4	1.80	17 53.6	3	12 50 31.40	0.108	2 38 45.4	1.98	15 52.3
4	12 49 56.80	0.295	2 44 18.0	1.10	17 49.8	4	12 50 26.46	0.214	2 37 56.8	2.08	15 48.3
5	12 50 3.68	0.279	2 44 43.1	1.00	17 46.0	5	12 50 21.15	0.230	2 37 5.9	2.17	15 44.3
6	12 50 10.18	+0.263	-2 45 5.7	-0.90	17 42.2	6	12 50 15.46	-0.296	-2 36 12.9	+2.26	15 40.2
7	12 50 16.29	0.247	2 45 25.9	0.79	17 38.3	7	12 50 9.39	0.261	2 35 17.5	2.35	15 36.2
8	12 50 22.01	0.231	2 45 43.5	0.69	17 34.5	8	12 50 2.96	0.276	2 34 20.0	2.44	15 32.2
9	12 50 27.34	0.214	2 45 58.6	0.58	17 30.7	9	12 49 56.16	0.291	2 33 20.4	2.53	15 28.1
10	12 50 32.28	0.198	2 46 11.2	0.47	17 26.8	10	12 49 48.99	0.306	2 32 18.6	2.62	15 24.1
11	12 50 36.83	+0.182	-2 46 21.3	-0.37	17 22.9	11	12 49 41.46	-0.321	-2 31 14.6	+2.71	15 20.0
12	12 50 40.98	0.165	2 46 28.9	0.26	17 19.1	12	12 49 33.58	0.336	2 30 8.5	2.80	15 15.9
13	12 50 44.73	0.148	2 46 33.9	0.16	17 15.2	13	12 49 25.34	0.350	2 29 0.4	2.88	15 11.9
14	12 50 48.08	0.131	2 46 36.5	-0.05	17 11.3	14	12 49 16.75	0.365	2 27 50.3	2.96	15 7.8
15	12 50 51.03	0.115	2 46 36.4	+0.05	17 7.4	15	12 49 7.82	0.379	2 26 38.2	3.04	15 3.7
16	12 50 53.58	+0.099	-2 46 33.9	+0.16	17 3.5	16	12 48 58.55	-0.393	-2 25 24.1	+3.12	14 59.6
17	12 50 55.73	0.082	2 46 28.8	0.26	16 59.6	17	12 48 48.94	0.407	2 24 8.1	3.20	14 55.5
18	12 50 57.48	0.065	2 46 21.2	0.37	16 55.7	18	12 48 39.01	0.421	2 22 50.3	3.28	14 51.4
19	12 50 58.83	0.048	2 46 11.1	0.47	16 51.8	19	12 48 28.76	0.434	2 21 30.6	3.36	14 47.3
20	12 50 59.77	0.031	2 45 58.4	0.58	16 47.9	20	12 48 18.18	0.447	2 20 9.1	3.43	14 43.2
21	12 51 0.31	+0.014	-2 45 43.3	+0.68	16 44.0	21	12 48 7.30	-0.460	-2 18 45.9	+3.50	14 39.1
22	12 51 0.46	-0.003	2 45 25.7	0.79	16 40.0	22	12 47 56.11	0.473	2 17 21.0	3.57	14 35.0
23	12 51 0.20	0.020	2 45 5.6	0.89	16 36.1	23	12 47 44.62	0.485	2 15 54.4	3.64	14 30.8
24	12 50 59.54	0.036	2 44 43.0	0.99	16 32.1	24	12 47 32.84	0.497	2 14 26.1	3.71	14 26.7
25	12 50 58.49	0.053	2 44 18.0	1.09	16 28.2	25	12 47 20.77	0.509	2 12 56.5	3.77	14 22.6
26	12 50 57.04	-0.070	-2 43 50.5	+1.19	16 24.2	26	12 47 8.43	-0.520	-2 11 25.3	+3.83	14 18.4
27	12 50 55.20	0.086	2 43 20.6	1.29	16 20.3	27	12 46 55.81	0.531	2 9 52.5	3.89	14 14.3
28	12 50 52.97	0.102	2 42 48.4	1.39	16 16.3	28	12 46 42.92	0.542	2 8 18.4	3.95	14 10.1
29	12 50 50.34	0.118	2 42 13.7	1.49	16 12.3	29	12 46 29.79	0.553	2 6 42.9	4.01	14 6.0
30	12 50 47.32	0.134	2 41 36.7	1.59	16 8.3	30	12 46 16.38	0.563	2 5 6.1	4.06	14 1.8
31	12 50 43.92	-0.150	-2 40 57.4	+1.69	16 4.3	31	12 46 2.75	-0.573	-2 3 28.0	+4.11	13 57.7
32	12 50 40.13	-0.166	-2 40 15.7	+1.79	16 0.3	32	12 45 48.87	-0.583	-2 1 48.6	+4.16	13 53.5
Day of the Month.		2d.	10th.	18th.	26th.	Day of the Month.		2d.	11th.	19th.	27th.
Polar Semidiameter . .		8".2	8".3	8".4	8".6	Polar Semidiameter . .		8".7	8".8	8".9	9".0
Horizontal Parallax . .		0.9	0.9	1.0	1.0	Horizontal Parallax . .		1.0	1.0	1.0	1.0

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	12 46 29.78	-0.553	-2 6 42.9	+4.01	14 6.0	1	12 38 16.36	-0.714	-1 10 50.6	+4.00	11 55.9
2	12 46 16.38	0.563	2 5 6.1	4.06	14 1.8	2	12 37 59.23	0.713	1 9 0.2	4.58	11 51.7
3	12 46 2.75	0.573	2 3 28.0	4.11	13 57.7	3	12 37 42.12	0.712	1 7 10.3	4.56	11 47.5
4	12 45 48.87	0.583	2 1 48.6	4.16	13 53.5	4	12 37 25.04	0.711	1 5 21.0	4.54	11 43.2
5	12 45 34.76	0.593	2 0 8.1	4.21	13 49.3	5	12 37 8.00	0.709	1 3 32.2	4.51	11 39.0
6	12 45 20.42	-0.603	-1 58 26.5	+4.26	13 45.2	6	12 36 51.01	-0.707	-1 1 44.2	+4.48	11 34.8
7	12 45 5.87	0.611	1 56 43.7	4.30	13 41.0	7	12 36 34.09	0.704	0 59 56.9	4.45	11 30.6
8	12 44 51.11	0.619	1 54 59.9	4.34	13 36.8	8	12 36 17.23	0.701	0 58 10.4	4.42	11 26.4
9	12 44 36.14	0.627	1 53 15.2	4.38	13 32.6	9	12 36 0.45	0.697	0 56 24.6	4.39	11 22.2
10	12 44 20.98	0.635	1 51 29.5	4.42	13 28.5	10	12 35 43.75	0.693	0 54 39.9	4.35	11 18.0
11	12 44 5.64	-0.643	-1 49 43.0	+4.46	13 24.3	11	12 35 27.15	-0.688	-0 52 56.1	+4.31	11 13.8
12	12 43 50.12	0.650	1 47 55.5	4.49	13 20.1	12	12 35 10.65	0.683	0 51 13.2	4.27	11 9.6
13	12 43 34.43	0.657	1 46 7.4	4.52	13 15.9	13	12 34 54.27	0.678	0 49 31.4	4.22	11 5.4
14	12 43 18.58	0.664	1 44 18.6	4.55	13 11.7	14	12 34 38.01	0.673	0 47 50.8	4.17	11 1.2
15	12 43 2.58	0.670	1 42 29.1	4.58	13 7.5	15	12 34 21.88	0.667	0 46 11.3	4.12	10 57.0
16	12 42 46.43	-0.676	-1 40 39.0	+4.60	13 3.3	16	12 34 5.89	-0.661	-0 44 33.1	+4.07	10 52.8
17	12 42 30.15	0.681	1 38 48.5	4.62	12 59.1	17	12 33 50.04	0.655	0 42 56.1	4.02	10 48.6
18	12 42 13.74	0.686	1 36 57.5	4.64	12 54.9	18	12 33 34.36	0.649	0 41 20.5	3.96	10 44.4
19	12 41 57.21	0.691	1 35 6.0	4.65	12 50.7	19	12 33 18.84	0.643	0 39 46.3	3.90	10 40.2
20	12 41 40.59	0.695	1 33 14.2	4.66	12 46.5	20	12 33 3.50	0.636	0 38 13.5	3.84	10 36.0
21	12 41 23.87	-0.698	-1 31 22.3	+4.66	12 42.3	21	12 32 48.34	-0.628	-0 36 42.3	+3.78	10 31.8
22	12 41 7.06	0.701	1 29 30.1	4.67	12 38.1	22	12 32 33.37	0.620	0 35 12.6	3.71	10 27.7
23	12 40 50.18	0.704	1 27 37.7	4.67	12 33.8	23	12 32 18.59	0.612	0 33 44.5	3.64	10 23.5
24	12 40 33.23	0.707	1 25 45.3	4.68	12 29.6	24	12 32 4.02	0.603	0 32 17.9	3.57	10 19.3
25	12 40 16.23	0.709	1 23 52.9	4.68	12 25.4	25	12 31 49.66	0.594	0 30 53.0	3.50	10 15.1
26	12 39 59.17	-0.711	-1 22 0.5	+4.68	12 21.2	26	12 31 35.52	-0.585	-0 29 29.9	+3.43	10 11.0
27	12 39 42.08	0.712	1 20 8.2	4.67	12 17.0	27	12 31 21.61	0.575	0 28 8.5	3.36	10 6.8
28	12 39 24.96	0.713	1 18 16.1	4.66	12 12.8	28	12 31 7.93	0.565	0 26 48.9	3.28	10 2.7
29	12 39 7.82	0.714	1 16 24.3	4.65	12 8.5	29	12 30 54.48	0.555	0 25 31.0	3.20	9 58.5
30	12 38 50.66	0.715	1 14 32.7	4.64	12 4.3	30	12 30 41.27	0.545	0 24 15.0	3.12	9 54.4
31	12 38 33.51	-0.715	-1 12 41.4	+4.63	12 0.1	31	12 30 28.32	-0.535	-0 23 0.9	+3.04	9 50.2
32	12 38 16.36	-0.714	-1 10 50.6	+4.60	11 55.9	32	12 30 15.61	-0.524	-0 21 48.7	+2.96	9 46.1
Day of the Month.						Day of the Month.					
		7th.	15th.	22d.	31st.			8th.	16th.	24th.	31d.
Polar Semidiameter . .		9'.0	9'.1	9'.1	9'.1	Polar Semidiameter . .		9'.1	9'.0	9'.0	8'.9
Horizontal Parallax . .		1.0	1.0	1.0	1.0	Horizontal Parallax . .		1.0	1.0	1.0	1.0

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign - indicates that north declinations are decreasing and south declinations increasing.

GREENWICH MEAN TIME.											
MAY.						JUNE.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>		<i>h m s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>h m</i>
1	12 30 28.32	-0.535	-0 23 0.9	+3.04	9 50.2	1	12 26 17.44	-0.116	-0 2 39.8	+0.11	7 44.2
2	12 30 15.61	0.594	0 21 48.7	2.96	9 46.1	2	12 26 14.84	0.101	0 2 38.2	+0.01	7 40.3
3	12 30 3.17	0.513	0 20 38.4	2.88	9 42.0	3	12 26 12.60	0.086	0 2 39.0	-0.09	7 36.3
4	12 29 51.00	0.502	0 19 30.1	2.80	9 37.8	4	12 26 10.73	0.071	0 2 42.3	0.19	7 32.3
5	12 29 39.10	0.490	0 18 23.8	2.72	9 33.7	5	12 26 9.23	0.056	0 2 48.0	0.29	7 28.4
6	12 29 27.47	-0.478	-0 17 19.4	+2.64	9 29.6	6	12 26 8.09	-0.041	-0 2 56.1	-0.39	7 24.4
7	12 29 16.13	0.466	0 16 17.2	2.55	9 25.4	7	12 26 7.32	0.025	0 3 6.7	0.49	7 20.5
8	12 29 5.08	0.454	0 15 17.1	2.46	9 21.3	8	12 26 6.92	-0.009	0 3 19.7	0.59	7 16.6
9	12 28 54.32	0.442	0 14 19.1	2.37	9 17.2	9	12 26 6.90	+0.006	0 3 35.2	0.70	7 12.6
10	12 28 43.85	0.429	0 13 23.2	2.28	9 13.1	10	12 26 7.25	0.022	0 3 53.1	0.80	7 8.7
11	12 28 33.69	-0.416	-0 12 29.5	+2.19	9 9.0	11	12 26 7.96	+0.038	-0 4 13.4	-0.90	7 4.8
12	12 28 23.84	0.403	0 11 38.0	2.10	9 4.9	12	12 26 9.05	0.053	0 4 36.2	1.00	7 0.9
13	12 28 14.30	0.390	0 10 48.8	2.01	9 0.8	13	12 26 10.51	0.069	0 5 1.4	1.10	6 57.0
14	12 28 5.08	0.377	0 10 1.8	1.91	8 56.7	14	12 26 12.34	0.085	0 5 29.0	1.20	6 53.1
15	12 27 56.19	0.364	0 9 17.1	1.82	8 52.7	15	12 26 14.55	0.100	0 5 59.0	1.30	6 49.2
16	12 27 47.62	-0.350	-0 8 34.7	+1.73	8 48.6	16	12 26 17.12	+0.116	-0 6 31.5	-1.40	6 45.3
17	12 27 39.38	0.336	0 7 54.6	1.63	8 44.5	17	12 26 20.07	0.131	0 7 6.3	1.50	6 41.4
18	12 27 31.48	0.322	0 7 16.8	1.53	8 40.5	18	12 26 23.38	0.146	0 7 43.6	1.60	6 37.5
19	12 27 23.91	0.308	0 6 41.4	1.43	8 36.4	19	12 26 27.06	0.162	0 8 23.2	1.70	6 33.6
20	12 27 16.69	0.294	0 6 8.4	1.33	8 32.4	20	12 26 31.11	0.177	0 9 5.1	1.80	6 29.6
21	12 27 9.81	-0.280	-0 5 37.7	+1.23	8 28.3	21	12 26 35.53	+0.192	-0 9 49.4	-1.90	6 25.9
22	12 27 3.27	0.266	0 5 9.5	1.13	8 24.3	22	12 26 40.31	0.207	0 10 36.0	2.00	6 22.1
23	12 26 57.09	0.251	0 4 43.6	1.03	8 20.2	23	12 26 45.45	0.222	0 11 25.0	2.09	6 18.2
24	12 26 51.26	0.236	0 4 20.2	0.93	8 16.2	24	12 26 50.95	0.238	0 12 16.2	2.19	6 14.4
25	12 26 45.78	0.221	0 3 59.2	0.83	8 12.2	25	12 26 56.81	0.253	0 13 9.7	2.28	6 10.6
26	12 26 40.65	-0.206	-0 3 40.6	+0.73	8 8.2	26	12 27 3.03	+0.268	-0 14 5.5	-2.38	6 6.7
27	12 26 35.88	0.191	0 3 24.4	0.63	8 4.2	27	12 27 9.60	0.283	0 15 3.5	2.47	6 2.9
28	12 26 31.47	0.176	0 3 10.6	0.53	8 0.2	28	12 27 16.52	0.298	0 16 3.7	2.56	5 59.1
29	12 26 27.42	0.161	0 2 59.2	0.42	7 56.2	29	12 27 23.79	0.312	0 17 6.1	2.65	5 55.3
30	12 26 23.73	0.146	0 2 50.3	0.32	7 52.2	30	12 27 31.42	0.326	0 18 10.8	2.74	5 51.5
31	12 26 20.40	-0.131	-0 2 43.9	+0.21	7 48.2	31	12 27 39.39	+0.340	-0 19 17.6	-2.83	5 47.7
32	12 26 17.44	-0.116	-0 2 39.8	+0.11	7 44.2	32	12 27 47.71	+0.354	-0 20 26.5	-2.92	5 43.9
Day of the Month.						Day of the Month.					
2d.						3d.					
10th.						11th.					
18th.						19th.					
26th.						27th.					
Polar Semidiameter . .						Polar Semidiameter . .					
Horizontal Parallax . .						Horizontal Parallax . .					
8'.9						8'.5					
1.0						1.0					
8'.8						8'.4					
1.0						1.0					
8'.7						8'.3					
1.0						0.9					
8'.6						8'.2					
1.0						0.9					

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

NOTE.—The sign + indicates north declinations; the sign — indicates south declinations.

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m
1	12 27 39.39	+0.340	-0 19 17.6	-2.83	5 47.7	1	12 34 26.66	+0.736	-1 10 8.5	-5.23	3 52.5
2	12 27 47.71	0.354	0 20 26.5	2.92	5 43.9	2	12 34 44.47	0.747	1 12 14.7	5.29	3 48.9
3	12 27 56.37	0.368	0 21 37.6	3.01	5 40.1	3	12 35 2.53	0.758	1 14 22.3	5.35	3 45.2
4	12 28 5.37	0.382	0 22 50.8	3.10	5 36.3	4	12 35 20.85	0.769	1 16 31.4	5.41	3 41.6
5	12 28 14.71	0.396	0 24 6.2	3.19	5 32.6	5	12 35 39.42	0.780	1 18 41.9	5.47	3 38.0
6	12 28 24.39	+0.410	-0 25 23.6	-3.26	5 28.8	6	12 35 58.25	+0.790	-1 20 53.9	-5.53	3 34.4
7	12 28 34.40	0.424	0 26 43.1	3.36	5 25.0	7	12 36 17.32	0.800	1 23 7.2	5.58	3 30.8
8	12 28 44.75	0.438	0 28 4.7	3.44	5 21.2	8	12 36 36.63	0.810	1 25 21.9	5.64	3 27.2
9	12 28 55.43	0.452	0 29 28.4	3.53	5 17.5	9	12 36 56.18	0.820	1 27 38.0	5.70	3 23.6
10	12 29 6.45	0.466	0 30 54.1	3.61	5 13.7	10	12 37 15.97	0.830	1 29 55.3	5.76	3 20.0
11	12 29 17.79	+0.480	-0 32 21.8	-3.70	5 10.0	11	12 37 35.99	+0.839	-1 32 14.0	-5.81	3 16.4
12	12 29 29.46	0.493	0 33 51.4	3.78	5 6.2	12	12 37 56.24	0.848	1 34 33.9	5.86	3 12.8
13	12 29 41.45	0.506	0 35 23.1	3.86	5 2.5	13	12 38 16.72	0.858	1 36 55.1	5.91	3 9.2
14	12 29 53.77	0.520	0 36 56.8	3.94	4 58.7	14	12 38 37.42	0.867	1 39 17.5	5.96	3 5.6
15	12 30 6.40	0.533	0 38 32.3	4.02	4 55.0	15	12 38 58.34	0.876	1 41 41.1	6.01	3 2.0
16	12 30 19.34	+0.546	-0 40 9.8	-4.10	4 51.3	16	12 39 19.48	+0.885	-1 44 5.9	-6.06	2 58.4
17	12 30 32.60	0.559	0 41 49.2	4.18	4 47.6	17	12 39 40.82	0.894	1 46 31.7	6.10	2 54.8
18	12 30 46.17	0.572	0 43 30.4	4.26	4 43.9	18	12 40 2.37	0.903	1 48 58.7	6.15	2 51.3
19	12 31 0.04	0.585	0 45 13.4	4.34	4 40.2	19	12 40 24.12	0.911	1 51 26.7	6.19	2 47.7
20	12 31 14.21	0.597	0 46 58.3	4.41	4 36.5	20	12 40 46.07	0.919	1 53 55.8	6.23	2 44.2
21	12 31 28.69	+0.609	-0 48 44.9	-4.48	4 32.8	21	12 41 8.22	+0.927	-1 56 25.9	-6.27	2 40.6
22	12 31 43.46	0.621	0 50 33.4	4.55	4 29.1	22	12 41 30.56	0.935	1 58 57.0	6.31	2 37.1
23	12 31 58.51	0.633	0 52 23.5	4.62	4 25.4	23	12 41 53.09	0.943	2 1 29.0	6.35	2 33.5
24	12 32 13.86	0.645	0 54 15.3	4.69	4 21.7	24	12 42 15.79	0.951	2 4 2.0	6.39	2 30.0
25	12 32 29.50	0.657	0 56 8.8	4.76	4 18.1	25	12 42 38.68	0.958	2 6 35.9	6.43	2 26.4
26	12 32 45.41	+0.669	-0 58 4.0	-4.83	4 14.4	26	12 43 1.75	+0.965	-2 9 10.7	-6.47	2 22.9
27	12 33 1.61	0.681	1 0 0.8	4.90	4 10.8	27	12 43 24.99	0.973	2 11 46.3	6.50	2 19.3
28	12 33 18.08	0.692	1 1 59.2	4.97	4 7.1	28	12 43 48.40	0.979	2 14 22.7	6.54	2 15.8
29	12 33 34.82	0.703	1 3 59.2	5.04	4 3.5	29	12 44 11.97	0.986	2 17 0.0	6.58	2 12.2
30	12 33 51.84	0.714	1 6 0.8	5.11	3 59.8	30	12 44 35.72	0.993	2 19 38.1	6.61	2 8.7
31	12 34 9.12	+0.725	-1 8 3.9	-5.17	3 56.2	31	12 44 59.62	+1.000	-2 22 17.0	-6.64	2 5.1
32	12 34 26.66	+0.736	-1 10 8.5	-5.23	3 52.5	32	12 45 23.68	+1.006	-2 24 56.6	-6.67	2 1.6
Day of the Month.						Day of the Month.					
5th.						6th.					
13th.						14th.					
21st.						22d.					
29th.						30th.					
Polar Semidiameter . .						Polar Semidiameter . .					
Horizontal Parallax . .						Horizontal Parallax . .					
8".1						7".7					
0.9						0.9					
8".0						7".6					
0.9						0.9					
7".9						7".5					
0.9						0.9					
7".8						7".5					
0.9						0.8					

GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.						
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.		
1	12 45 23.68	+1.006	2 24 56.6	-6.67	2 1.6	1	12 58 20.02	+1.127	3 48 22.1	-7.07	0 16.5	
2	12 45 47.89	1.012	2 27 36.9	6.70	1 58.1	2	12 58 47.08	1.129	3 51 11.8	7.06	0 13.0	
3	12 46 12.26	1.018	2 30 17.9	6.73	1 54.6	3	12 59 14.18	1.130	3 54 1.4	7.06	0 9.5	
4	12 46 36.78	1.024	2 32 59.7	6.78	1 51.0	4	12 59 41.30	1.131	3 56 50.9	7.06	0 6.0	
5	12 47 1.44	1.030	2 35 42.0	6.78	1 47.5	5	13 0 8.46	1.132	3 59 40.3	7.05	0 2.1	
6	12 47 26.23	+1.036	2 38 25.0	-6.80	1 44.0	6	13 0 35.65	+1.133	4 2 29.5	-7.05	23 55.6	
7	12 47 51.16	1.042	2 41 8.6	6.83	1 40.5	7	13 1 2.85	1.133	4 5 18.5	7.04	23 52.1	
8	12 48 16.22	1.047	2 43 52.8	6.85	1 36.9	8	13 1 30.06	1.134	4 8 7.3	7.03	23 48.7	
9	12 48 41.41	1.052	2 46 37.5	6.87	1 33.4	9	13 1 57.20	1.134	4 10 55.8	7.03	23 45.3	
10	12 49 6.72	1.057	2 49 22.7	6.89	1 29.9	10	13 2 24.53	1.135	4 13 44.1	7.01	23 41.8	
11	12 49 32.16	+1.062	2 52 8.5	-6.91	1 26.4	11	13 2 51.77	+1.135	4 16 32.1	-6.99	23 38.3	
12	12 49 57.71	1.067	2 54 54.6	6.93	1 22.9	12	13 3 19.01	1.134	4 19 19.7	6.98	23 34.8	
13	12 50 23.38	1.072	2 57 41.2	6.95	1 19.4	13	13 3 46.24	1.134	4 22 6.9	6.97	23 31.3	
14	12 50 49.15	1.078	3 0 28.2	6.97	1 15.9	14	13 4 13.46	1.133	4 24 53.8	6.95	23 27.8	
15	12 51 15.03	1.080	3 3 15.6	6.98	1 12.4	15	13 4 40.67	1.133	4 27 40.2	6.93	23 24.3	
16	12 51 41.01	+1.084	3 6 3.4	-6.99	1 8.9	16	13 5 7.85	+1.132	4 30 26.2	-6.91	23 20.8	
17	12 52 7.08	1.088	3 8 51.4	7.00	1 5.4	17	13 5 35.02	1.131	4 33 11.7	6.89	23 17.4	
18	12 52 33.25	1.092	3 11 39.7	7.01	1 1.9	18	13 6 2.15	1.130	4 35 56.7	6.87	23 13.9	
19	12 52 59.50	1.096	3 14 28.3	7.02	0 58.4	19	13 6 29.25	1.129	4 38 41.2	6.85	23 10.4	
20	12 53 25.84	1.099	3 17 17.1	7.03	0 54.9	20	13 6 56.32	1.127	4 41 25.1	6.82	23 6.9	
21	12 53 52.26	+1.102	3 20 6.1	-7.04	0 51.4	21	13 7 23.35	+1.125	4 44 8.4	-6.79	23 3.5	
22	12 54 18.75	1.106	3 22 55.2	7.05	0 47.9	22	13 7 50.33	1.123	4 46 51.2	6.77	23 0.0	
23	12 54 45.32	1.108	3 25 44.6	7.05	0 44.4	23	13 8 17.27	1.121	4 49 33.3	6.75	22 56.5	
24	12 55 11.96	1.111	3 28 34.1	7.06	0 40.9	24	13 8 44.15	1.119	4 52 14.7	6.72	22 53.0	
25	12 55 38.66	1.114	3 31 23.6	7.06	0 37.4	25	13 9 10.98	1.117	4 54 55.5	6.69	22 49.5	
26	12 56 5.42	+1.116	3 34 13.3	-7.07	0 33.9	26	13 9 37.75	+1.114	4 57 35.6	-6.66	22 46.0	
27	12 56 32.23	1.119	3 37 3.1	7.07	0 30.5	27	13 10 4.46	1.111	5 0 15.0	6.63	22 42.5	
28	12 56 59.11	1.121	3 39 52.9	7.07	0 27.0	28	13 10 31.10	1.108	5 2 53.6	6.60	22 39.0	
29	12 57 26.03	1.123	3 42 42.6	7.07	0 23.5	29	13 10 57.67	1.105	5 5 31.5	6.57	22 35.5	
30	12 57 53.00	1.125	3 45 32.4	7.07	0 20.0	30	13 11 24.17	1.103	5 8 8.6	6.53	22 32.0	
31	12 58 20.02	+1.127	3 48 22.1	-7.07	0 16.5	31	13 11 50.58	+1.099	5 10 44.9	-6.49	22 28.5	
32	12 58 47.08	+1.129	3 51 11.8	-7.06	0 13.0	32	13 12 16.91	+1.095	5 13 20.3	-6.46	22 25.0	
Day of the Month.			7th.	15th.	23d.	Day of the Month.			1st.	9th.	17th.	25th.
Polar Semidiameter			7".4	7".4	7".4	Polar Semidiameter			7".3	7".3	7".4	7".4
Horizontal Parallax			0.8	0.8	0.8	Horizontal Parallax			0.8	0.8	0.8	0.8

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.						
Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	Day of Month.	Apparent Right Ascension.	Var. of R. A. for 1 Hour.	Apparent Declination.	Var. of Decl. for 1 Hour.	Meridian Passage.	
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.		
	h m s	s	° ' "	"	h m		h m s	s	° ' "	"	h m	
1	13 12 16.91	+1.095	-5 13 20.3	-6.46	22 25.0	1	13 24 25.49	+0.901	-6 22 22.5	-4.90	20 39.1	
2	13 12 43.16	1.091	5 15 54.9	6.43	22 21.5	2	13 24 47.00	0.892	6 24 19.2	4.83	20 35.5	
3	13 13 9.31	1.087	5 18 28.6	6.39	22 18.0	3	13 25 8.29	0.883	6 26 14.3	4.76	20 31.9	
4	13 13 35.37	1.083	5 21 1.4	6.35	22 14.5	4	13 25 29.35	0.873	6 28 7.8	4.69	20 28.3	
5	13 14 1.32	1.079	5 23 33.2	6.31	22 11.0	5	13 25 50.17	0.863	6 29 59.7	4.62	20 24.7	
6	13 14 27.17	+1.075	-5 26 4.0	-6.27	22 7.5	6	13 26 10.75	+0.853	-6 31 49.8	-4.55	20 21.1	
7	13 14 52.90	1.070	5 28 33.9	6.23	22 4.0	7	13 26 31.09	0.843	6 33 38.1	4.48	20 17.5	
8	13 15 18.52	1.065	5 31 2.7	6.19	22 0.5	8	13 26 51.18	0.833	6 35 24.8	4.41	20 13.9	
9	13 15 44.02	1.060	5 33 30.4	6.14	21 57.0	9	13 27 11.02	0.821	6 37 9.7	4.34	20 10.3	
10	13 16 9.39	1.055	5 35 57.0	6.09	21 53.5	10	13 27 30.60	0.810	6 38 52.8	4.26	20 6.7	
11	13 16 34.64	+1.049	-5 38 22.6	-6.04	21 50.0	11	13 27 49.91	+0.799	-6 40 34.0	-4.19	20 3.1	
12	13 16 59.75	1.043	5 40 47.0	5.99	21 46.5	12	13 28 8.96	0.788	6 42 13.5	4.11	19 59.5	
13	13 17 24.71	1.037	5 43 10.2	5.94	21 42.9	13	13 28 27.74	0.777	6 43 51.1	4.03	19 55.9	
14	13 17 49.54	1.031	5 45 32.2	5.89	21 39.4	14	13 28 46.24	0.765	6 45 26.9	3.95	19 52.3	
15	13 18 14.22	1.025	5 47 53.0	5.84	21 35.9	15	13 29 4.46	0.753	6 47 0.7	3.87	19 48.6	
16	13 18 38.74	+1.019	-5 50 12.6	-5.79	21 32.4	16	13 29 22.40	+0.741	-6 48 32.7	-3.79	19 45.0	
17	13 19 3.11	1.012	5 52 30.9	5.74	21 28.8	17	13 29 40.06	0.729	6 50 2.7	3.71	19 41.3	
18	13 19 27.32	1.005	5 54 47.9	5.68	21 25.3	18	13 29 57.42	0.717	6 51 30.8	3.63	19 37.7	
19	13 19 51.36	0.998	5 57 3.6	5.63	21 21.8	19	13 30 14.48	0.705	6 52 56.9	3.55	19 34.0	
20	13 20 15.23	0.991	5 59 18.0	5.57	21 18.3	20	13 30 31.25	0.693	6 54 21.1	3.47	19 30.4	
21	13 20 38.93	+0.984	-6 1 31.0	-5.52	21 14.7	21	13 30 47.72	+0.680	-6 55 43.3	-3.39	19 26.8	
22	13 21 2.46	0.977	6 3 42.7	5.46	21 11.2	22	13 31 3.88	0.667	6 57 3.5	3.31	19 23.1	
23	13 21 25.80	0.969	6 5 53.0	5.40	21 7.6	23	13 31 19.73	0.654	6 58 21.7	3.23	19 19.4	
24	13 21 48.05	0.961	6 8 1.8	5.34	21 4.1	24	13 31 35.28	0.641	6 59 37.9	3.14	19 15.7	
25	13 22 11.91	0.953	6 10 9.3	5.28	21 0.5	25	13 31 50.51	0.628	7 0 52.0	3.05	19 12.0	
26	13 22 34.69	+0.945	-6 12 15.2	-5.22	20 57.0	26	13 32 5.41	+0.615	-7 2 4.1	-2.97	19 8.3	
27	13 22 57.26	0.937	6 14 19.7	5.16	20 53.4	27	13 32 20.00	0.601	7 3 14.1	2.88	19 4.6	
28	13 23 19.63	0.928	6 16 22.7	5.10	20 49.8	28	13 32 34.26	0.587	7 4 22.0	2.79	19 0.9	
29	13 23 41.79	0.919	6 18 24.2	5.03	20 46.2	29	13 32 48.19	0.573	7 5 27.9	2.70	18 57.2	
30	13 24 3.75	0.910	6 20 24.2	4.96	20 42.7	30	13 33 1.78	0.559	7 6 31.6	2.61	18 53.5	
31	13 24 25.49	+0.901	-6 22 22.5	-4.90	20 39.1	31	13 33 15.03	+0.545	-7 7 33.1	-2.52	18 49.8	
32	13 24 47.00	+0.892	-6 24 19.2	-4.83	20 35.5	32	13 33 27.94	+0.531	-7 8 32.5	-2.43	18 46.1	
Day of the Month.		2d.	10th.	18th.	26th.	Day of the Month.		4th.	12th.	20th.	28th.	36th.
Polar Semidiameter . .		7.4	7.4	7.5	7.5	Polar Semidiameter . .		7.6	7.7	7.8	7.9	8.0
Horizontal Parallax . .		0.8	0.8	0.8	0.9	Horizontal Parallax . .		0.9	0.9	0.9	0.9	0.9

The sign + prefixed to the hourly change of declination indicates that north declinations are increasing and south declinations are decreasing. The sign — indicates that north declinations are decreasing and south declinations increasing.

MEAN PLACES FOR THE BEGINNING OF 1893.

Name of Star.		Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
			^h ^m ^s	^s	[°] ['] ["]	
α	Andromedæ . . .	2	0 2 51.39	+ 3.092	+ 28 29 56.7	+ 19.88
β	Cassiopeæ . . .	2	0 3 28.12	3.176	+ 58 33 33.4	19.85
γ	Pegasi (<i>Algenib</i>) . . .	3	0 7 43.54	3.084	+ 14 35 19.1	20.02
ϵ	Ceti . . .	3	0 13 58.39	3.053	— 9 25 2.6	19.96
β	Hydri . . .	3	0 20 7.23	3.226	— 77 51 24.9	20.22
α	Cassiopeæ . (var.) . .	2	0 34 26.17	+ 3.376	+ 55 57 1.4	+ 19.79
β	Ceti . . .	2	0 38 13.13	3.014	— 18 34 26.7	19.80
γ	Cassiopeæ . . .	2	0 50 15.02	3.581	+ 60 8 13.6	19.56
β	Andromedæ . . .	2	1 3 44.46	3.345	+ 35 3 11.2	19.16
θ^1	Ceti . . .	3	1 18 40.48	2.997	— 8 44 8.2	18.66
α	Urs. Min. (<i>Polaris</i>) . .	2	1 19 41.94	+ 23.879	+ 88 44 15.0	+ 18.85
α	Eridani (<i>Achernar</i>) . .	1	1 33 43.39	2.232	— 57 46 49.7	18.35
ζ	Ceti . . .	3	1 46 10.73	2.962	— 10 51 53.5	17.81
β	Arietis . . .	3	1 48 43.70	3.304	+ 20 17 5.3	17.72
γ	Andromedæ . . .	2	1 57 19.83	3.662	+ 41 48 57.7	17.43
α	Arietis . . .	2	2 1 8.46	+ 3.372	+ 22 57 22.5	+ 17.16
β	Trianguli . . .	3	2 3 10.60	3.556	+ 34 28 51.5	17.19
ϵ	Cassiopeæ . . .	4	2 20 14.74	4.867	+ 66 55 15.5	16.42
γ	Ceti . . .	3	2 37 45.34	3.104	+ 2 47 4.6	15.33
α	Ceti . . .	2	2 56 41.13	3.131	+ 3 40 10.8	14.30
β	Persei (<i>Algol</i>) (var.) . .	3	3 1 12.35	+ 3.885	+ 40 32 34.6	+ 14.11
α	Persei . . .	2	3 16 41.04	4.259	+ 49 28 47.6	13.06
ϵ	Eridani . . .	3	3 27 53.33	2.824	— 9 49 13.8	12.38
γ	Tauri . . .	3	3 41 7.38	3.557	+ 23 46 25.8	11.37
ζ	Persei . . .	3	3 47 24.34	+ 3.761	+ 31 33 55.1	10.93
γ	Hydri . . .	3	3 48 53.77	— 0.993	— 74 34 0.3	+ 10.99
γ	Eridani . . .	3	3 53 2.27	+ 2.799	— 13 48 47.6	10.43
c	Persei . . .	4	4 0 53.58	4.338	+ 47 25 34.5	9.92
ϵ	Tauri . . .	4	4 22 22.08	3.498	+ 18 56 33.5	8.24
α	Tauri (<i>Aldebaran</i>) . .	1	4 29 46.83	3.438	+ 16 17 37.5	7.50
ϵ	Aurigæ . . .	3	4 50 1.52	+ 3.901	+ 32 59 46.3	+ 6.01
β	Eridani . . .	3	5 2 35.36	2.949	— 5 13 30.3	4.91
α	Aurigæ (<i>Capella</i>) . .	1	5 8 47.06	4.425	+ 45 53 18.7	4.01
β	Orionis (<i>Rigel</i>) . .	1	5 9 23.72	2.881	— 8 19 32.3	4.39
β	Tauri . . .	2	5 19 31.66	3.790	+ 28 30 59.5	3.34
δ	Orionis . (var.) . .	3	5 26 32.40	+ 3.063	— 0 22 43.6	+ 2.91
α	Leporis . . .	3	5 28 0.65	2.645	— 17 53 57.2	2.79
ϵ	Orionis . . .	2	5 30 47.02	3.042	— 1 16 14.3	2.55
α	Columbæ . . .	2	5 35 46.53	2.173	— 34 7 53.4	2.07
κ	Orionis . . .	3	5 42 40.87	2.845	— 9 42 28.9	1.52
α	Orionis . (var.) . .	1	5 49 22.73	+ 3.247	+ 7 23 12.0	+ 0.94
β	Aurigæ . . .	2	5 51 40.82	4.402	+ 44 56 9.2	0.72
θ	Aurigæ . . .	3	5 52 25.53	4.092	+ 37 12 16.4	+ 0.57
η	Geminorum . . .	3	6 8 25.17	3.623	+ 22 32 14.5	— 0.75
μ	Geminorum . . .	3	6 16 29.27	3.631	+ 22 34 4.6	1.56
α	Argus (<i>Canopus</i>) . .	1	6 21 34.68	+ 1.330	— 52 38 14.3	— 1.88
γ	Geminorum . . .	2	6 31 31.84	3.467	+ 16 29 24.5	2.80
α	Canis Majoris (<i>Sirius</i>) .	1	6 40 25.99	2.644	— 16 34 10.9	4.73
ϵ	Canis Majoris . . .	2	6 54 25.26	2.358	— 28 49 36.7	4.73
δ	Canis Majoris . . .	2	7 4 2.43	+ 2.438	— 26 13 24.6	— 5.52

MEAN PLACES FOR THE BEGINNING OF 1893.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		^h ^m ^s	^s	[°] ['] ^{''}	^{''}
δ Geminorum	3	7 13 43.98	+ 3.588	+ 22 10' 44.0	— 6.36
β Canis Minoris	3	7 21 20.93	3.260	+ 8 30 16.1	7.01
α^2 Geminorum (<i>Castor</i>)	2	7 27 46.45	3.838	+ 32 7 22.5	7.57
α Canis Min. (<i>Procyon</i>)	1	7 33 42.05	3.143	+ 5 29 55.7	9.01
β Geminorum (<i>Pollux</i>)	1	7 38 46.13	3.679	+ 28 17 3.2	8.43
15 Argus	3	8 2 59.23	+ 2.554	— 23 59 45.9	— 10.21
30 Monocerotis	4	8 20 18.82	3.000	— 3 33 27.3	11.52
ϵ Hydræ	3	8 41 6.61	3.181	+ 6 48 39.8	13.02
ϵ Ursæ Majoris	3	8 51 52.86	4.132	+ 48 27 41.0	13.92
β Argus	2	9 12 1.44	0.676	— 69 16 35.2	14.81
ϵ Argus	2	9 14 13.38	+ 1.601	— 58 49 33.6	— 15.00
α Hydræ	2	9 22 19.77	2.949	— 8 11 42.2	15.46
θ Ursæ Majoris	3	9 25 41.92	4.039	+ 52 9 52.6	16.23
ϵ Leonis	3	9 39 46.68	3.414	+ 24 16 0.0	16.44
α Leonis (<i>Regulus</i>)	1	10 2 40.43	3.200	+ 12 29 23.9	17.48
γ^1 Leonis	2	10 14 4.41	+ 3.314	+ 20 22 57.5	— 18.09
ρ Leonis	4	10 27 10.68	3.164	+ 9 51 25.2	18.44
46 Leonis Minoris	4	10 47 19.67	3.369	+ 34 47 30.6	19.30
α Ursæ Majoris	2	10 57 7.38	3.744	+ 62 19 42.9	19.37
δ Leonis	2	11 8 25.09	3.198	+ 21 6 35.3	19.69
δ Crateris	3	11 13 59.48	+ 2.997	— 14 11 59.0	— 19.47
λ Draconis	3	11 25 2.85	3.617	+ 69 55 17.6	19.84
β Leonis	2	11 43 36.12	3.064	+ 15 10 12.5	20.12
γ Ursæ Majoris	2	11 48 12.21	3.180	+ 54 17 22.4	20.03
ϵ Corvi	3	12 4 37.28	3.083	— 22 1 28.7	20.05
γ Corvi	2	12 10 18.21	+ 3.080	— 16 56 52.2	— 20.02
η Virginis	3	12 14 25.91	3.069	— 0 4 20.0	20.04
α^1 Crucis	1	12 20 38.91	3.297	— 62 30 21.8	20.01
δ^2 Corvi	2	12 24 19.80	3.103	— 15 55 10.3	20.08
β Corvi	2	12 28 45.97	3.142	— 22 48 18.1	19.96
γ Virginis	3	12 36 14.33	+ 3.038	— 0 51 45.8	— 19.81
α Canum Venaticorum	3	12 51 1.41	2.815	+ 38 53 46.4	19.51
ϵ Virginis	3	12 56 51.07	2.988	+ 11 32 3.4	19.41
α Virginis (<i>Spica</i>)	1	13 19 33.33	3.154	— 10 36 10.0	18.89
ζ Virginis	3	13 29 14.43	3.053	— 0 2 55.5	18.51
η Ursæ Majoris	2	13 43 19.52	+ 2.371	+ 49 50 50.2	— 18.07
β Bootis	3	13 49 35.41	2.857	+ 18 56 3.1	18.16
β Centauri	1	13 56 16.19	4.181	— 59 51 24.1	17.58
α Draconis	3	14 1 29.60	1.624	+ 64 53 13.8	17.29
α Bootis (<i>Arcturus</i>)	1	14 10 46.86	2.735	+ 19 44 22.5	18.88
α Centauri	1	14 32 19.98	+ 4.037	— 60 23 36.5	— 15.04
ϵ Bootis	2	14 40 18.91	2.621	+ 27 31 31.4	15.33
α^2 Libræ	2	14 44 57.49	+ 3.310	— 15 35 49.0	15.16
β Ursæ Minoris	2	14 51 1.14	— 0.227	+ 74 35 33.9	14.72
β Bootis	3	14 57 54.96	+ 2.260	+ 40 48 45.5	14.35
β Bootis	3	15 11 11.39	+ 2.421	+ 33 42 51.5	— 13.57
β Libræ	2	15 11 14.92	+ 3.222	— 8 59 16.5	13.50
γ^2 Ursæ Minoris	3	15 20 54.01	— 0.131	+ 72 12 53.0	12.81
α Coronæ Borealis	2	15 30 9.47	+ 2.539	+ 27 4 29.7	12.30
α Serpentis	2	15 38 59.84	+ 2.952	+ 6 45 44.6	— 11.54

MEAN PLACES FOR THE BEGINNING OF 1893.

Name of Star.	Magni- tude.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		^h ^m ^s	^s	[°] ['] ^{''}	^{''}
ε Serpentis	3	15 45 28.93	+ 2.987	+ 4 48 0.4	— 11.04
δ Scorpis	2	15 54 0.38	3.539	— 22 19 0.6	10.51
β ¹ Scorpis	2	15 59 12.91	3.481	— 19 30 44.3	10.12
δ Ophiuchi	3	16 8 44.28	3.140	— 3 25 6.6	9.50
τ Herculis	3	16 16 31.49	1.801	+ 46 34 5.3	8.73
η Draconis	3	16 22 32.67	+ 0.807	+ 61 45 23.0	— 8.22
α Scorpis (<i>Antares</i>)	1	16 22 50.78	3.671	— 26 11 39.1	8.29
β Herculis	2	16 25 37.21	2.578	+ 21 43 22.8	8.04
ζ Ophiuchi	3	16 31 16.00	3.299	— 10 21 0.2	7.55
α Trianguli Australis	2	16 37 20.29	6.307	— 68 49 49.1	7.13
κ Ophiuchi	3	16 52 36.22	+ 2.838	+ 9 32 30.1	— 5.82
η Ophiuchi	3	17 4 14.45	3.436	— 15 35 31.6	4.75
π Herculis	3	17 11 19.24	2.089	+ 36 55 47.6	4.22
θ Ophiuchi	3	17 15 26.26	3.680	— 24 53 32.8	3.93
β Draconis	3	17 28 0.93	1.354	+ 52 22 50.0	2.79
α Ophiuchi	2	17 29 58.05	+ 2.783	+ 12 38 17.3	— 2.66
μ Herculis	3	17 42 16.28	2.346	+ 27 47 0.0	2.31
γ Draconis	2	17 54 7.29	1.392	+ 51 30 5.3	— 0.54
η Serpentis	3	18 15 46.38	3.102	— 2 55 33.6	+ 0.70
λ Sagittarii	3	18 21 22.03	3.702	— 25 28 50.3	1.64
α Lyre (<i>Vega</i>)	1	18 33 18.96	+ 2.031	+ 38 41 2.9	+ 3.18
σ Sagittarii	2	18 48 37.83	3.721	— 26 25 45.3	4.15
ζ Aquilæ	3	19 0 29.54	2.757	+ 13 42 16.7	5.13
δ Draconis	3	19 12 31.83	0.029	+ 67 28 23.9	6.33
β Cygni	3	19 26 24.38	2.419	+ 27 44 6.3	7.37
γ Aquilæ	3	19 41 10.37	+ 2.852	+ 10 21 9.8	+ 8.56
δ Cygni	3	19 41 37.88	1.876	+ 44 52 10.6	8.64
α Aquilæ (<i>Altair</i>)	1	19 45 33.77	2.927	+ 8 35 9.2	9.28
θ Aquilæ	3	20 5 47.01	3.097	— 1 8 19.3	10.47
α ² Capricorni	3	20 12 7.08	3.332	— 12 52 34.3	10.93
α Pavonis	2	20 17 11.33	+ 4.782	— 57 4 38.3	+ 11.21
γ Cygni	2	20 18 23.40	2.154	+ 39 54 51.2	11.38
β Pavonis	3	20 35 18.87	5.470	— 66 35 13.1	12.55
α Cygni	2	20 37 47.07	2.044	+ 44 53 52.8	12.73
ε Cygni	3	20 41 52.92	2.428	+ 33 34 10.1	13.35
ν Cygni	4	20 53 11.04	+ 2.234	+ 40 45 19.0	+ 13.73
ζ Cygni	3	21 8 22.89	2.550	+ 29 47 17.0	14.62
α Cephei	3	21 16 1.57	1.436	+ 62 7 56.0	15.18
β Aquarii	3	21 25 55.58	3.161	— 6 2 30.4	15.67
β Cephei	3	21 27 16.68	0.793	+ 70 5 27.3	15.76
ε Pegasi	2	21 38 55.86	+ 2.947	+ 9 23 4.3	+ 16.37
α Aquarii	3	22 0 17.30	3.083	— 0 50 22.5	17.36
α Gruis	2	22 1 29.31	3.804	— 47 28 43.9	17.96
γ Aquarii	3	22 16 7.76	3.101	— 1 55 35.2	18.05
ζ Pegasi	3	22 36 7.54	2.991	+ 10 16 22.3	18.71
ι Cephei	3	22 45 52.17	+ 2.123	+ 65 38 15.3	+ 18.88
α Pis. Aus. (<i>Fomalhaut</i>)	1	22 51 44.25	3.324	— 30 11 21.3	19.00
α Pegasi (<i>Markab</i>)	2	22 59 25.85	2.985	+ 14 37 46.3	19.31
λ Andromedæ	4	23 32 19.63	2.923	+ 45 52 41.4	19.47
ω Piscium	4	23 53 49.01	+ 3.079	+ 6 16 15.2	+ 19.93

ECLIPSES IN 1893.

In the year 1893 there will be two eclipses, both of the sun.

I.—*A Total Eclipse of the Sun*, 1893, April 15—16, invisible at Washington.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of ζ in right ascension, April 16 ^d 2 ^h 27 ^m 0.9

Sun and moon's R. A.	^h 1 ^m 39 ^s 28.28	Hourly motions	^s 9.27 and 135.77
Sun's declination	10° 20' 25.8" N.	Hourly motion	0' 53.0" N.
Moon's declination	10 8 27.9 N.	Hourly motion	16 37.6 N.
Sun's equa. hor. parallax	8.5	Sun's true semidiameter	15 55.7
Moon's equa. hor. parallax	60 40.0	Moon's true semidiameter	16 31.1

CIRCUMSTANCES OF THE ECLIPSE.

		Longitude from Greenwich.	Latitude.
Eclipse begins	April ^d 15 ^h 23 ^m 57.5	82° 41.4' W.	32° 57.6' S.
Central eclipse begins	16 0 54.0	95 50.1 W.	36 28.9 S.
Central eclipse at noon	16 2 27.0	36 50.3 W.	1 4.2 S.
Central eclipse ends	16 4 18.7	28 19.6 E.	16 28.2 N.
Eclipse ends	16 5 15.1	14 57.7 E.	20 2.0 N.

II.—*An Annular Eclipse of the Sun*, 1893, October 9, invisible at Washington.

ELEMENTS OF THE ECLIPSE.

Greenwich mean time of ζ in right ascension, October 9 ^d 8 ^h 12 ^m 50.7

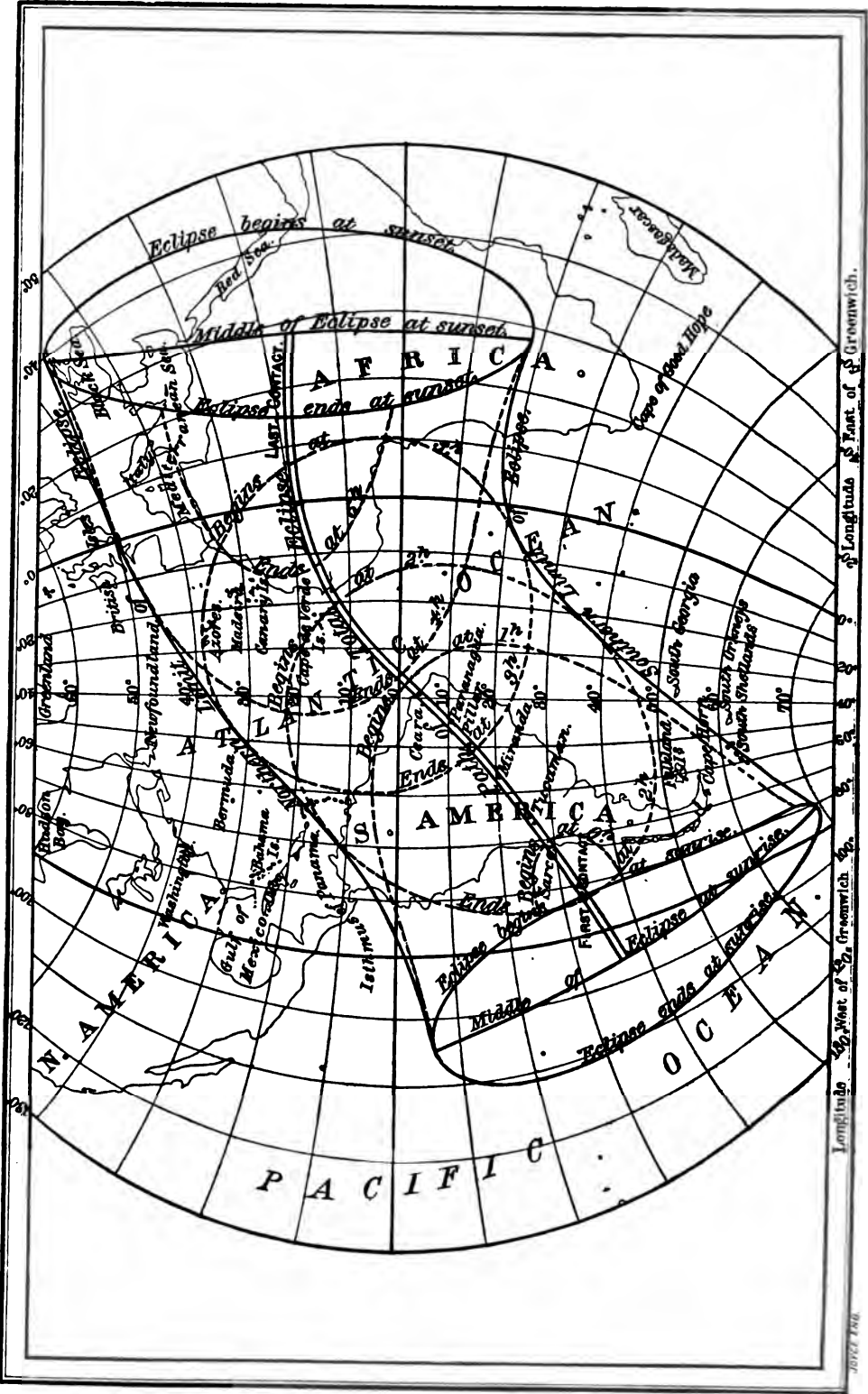
Sun and moon's R. A.	^h 13 ^m 1 ^s 45.01	Hourly motions	^s 9.20 and 113.15
Sun's declination	6° 35' 17.8" S.	Hourly motion	0' 57.0" S.
Moon's declination	6 17 10.1 S.	Hourly motion	14 50.9 S.
Sun's equa. hor. parallax	8.6	Sun's true semidiameter	16 1.6
Moon's equa. hor. parallax	55 55.4	Moon's true semidiameter	15 15.6

CIRCUMSTANCES OF THE ECLIPSE.

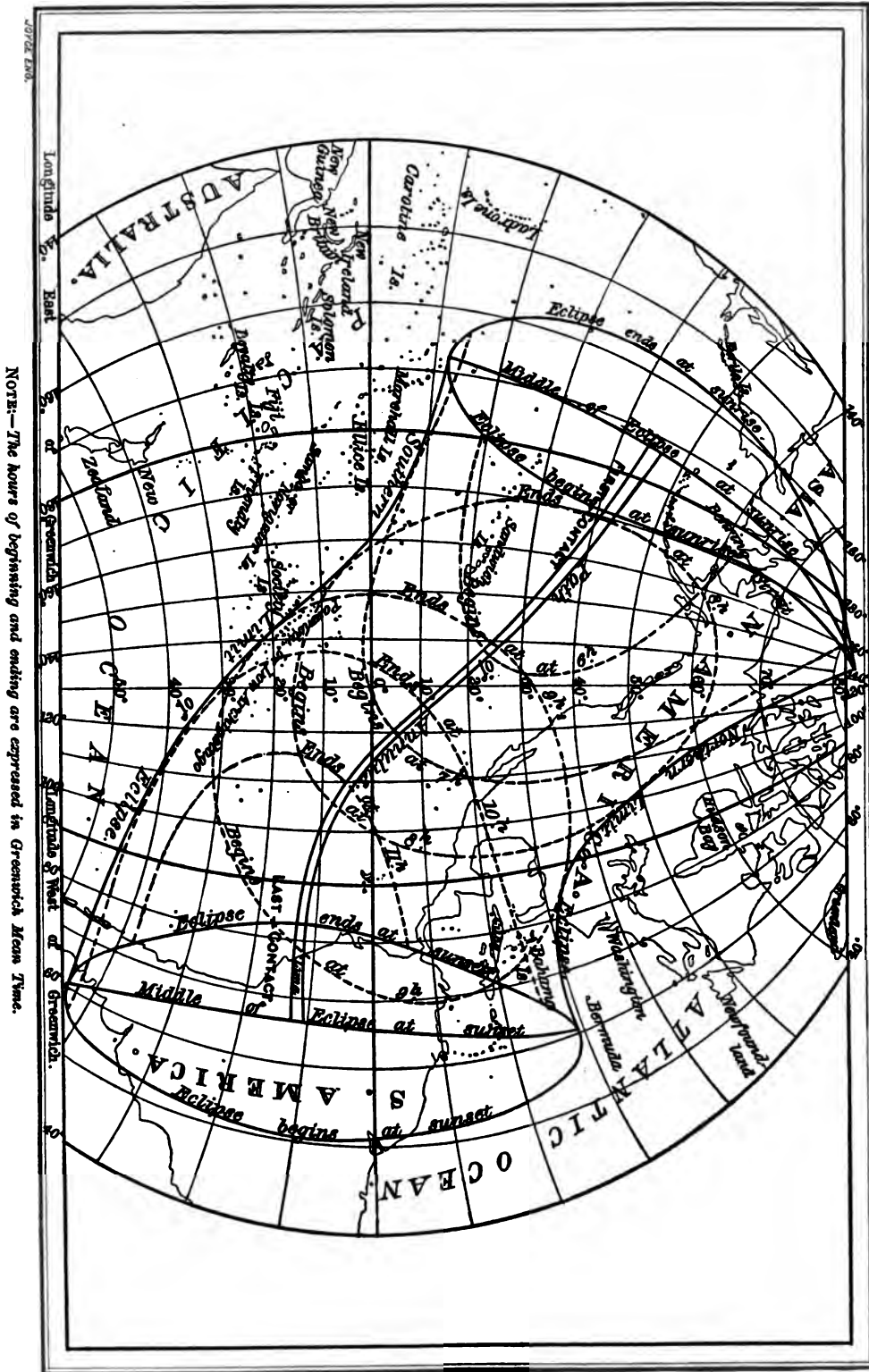
		Longitude from Greenwich.	Latitude.
Eclipse begins	October ^d 9 ^h 5 ^m 35.6	171° 49.5' W.	38° 44.3' N.
Central eclipse begins	9 6 41.3	173 0.7 E.	44 44.9 N.
Central eclipse at noon	9 8 12.8	126 26.3 W.	12 27.6 N.
Central eclipse ends	9 10 19.7	66 47.8 W.	11 37.5 S.
Eclipse ends	9 11 25.5	82 28.9 W.	17 40.5 S.

The regions within which the eclipses of the sun are visible, are laid down on the accompanying charts; from which, by means of the dotted lines, may also be found the Greenwich time of beginning and ending, within fifteen or twenty minutes.

TOTAL ECLIPSE OF APRIL 15-16, 1893.



Norm.—The hours of beginning and ending are expressed in Greenwich Mean Time.



EXPLANATION

ON THE ARRANGEMENT AND USE OF THE AMERICAN NAUTICAL ALMANAC.

THE EPHEMERIS FOR THE MERIDIAN OF GREENWICH.

THIS portion of *The American Ephemeris and Nautical Almanac* is designed for the special use of navigators, and is adapted to the meridian of Greenwich. It contains the ephemerides of the sun and moon; the distances of the moon from the centres of the sun and the four most conspicuous planets, and from certain fixed stars; the ephemerides of the planets Mercury, Venus, Mars, Jupiter and Saturn, and the mean places of one hundred and fifty fixed stars for the beginning of the year 1893.

TIME.

Astronomers make use of several different kinds of time; mean solar time; true, or apparent solar time; and sidereal time.

Solar Time.—Solar time is that used for all the purposes of ordinary life, and is measured by the daily motion of the sun. A *Solar Day* is the interval of time between two successive transits of the sun over the same meridian; and the hour-angle of the sun is called *Solar Time*. This is the most natural and direct measure of time. But the intervals between the successive returns of the sun to the same meridian are not exactly equal, owing to the varying motion of the earth around the sun, and to the obliquity of the ecliptic. The intervals between the sun's transits over the meridian being unequal it is impossible to regulate a clock or chronometer so that it shall accurately follow the sun.

To avoid the irregularity which would arise from using the true sun as the measure of time, a fictitious sun, called the *Mean Sun*, is supposed to move in the equator with a uniform velocity. This mean sun is supposed to keep, on the average, as near the real sun as is consistent with perfect uniformity of motion; it is sometimes in advance of it, and sometimes behind it, the greatest deviation being about 16 minutes of time.

Mean Solar Time, which is perfectly equable in its increase, is measured by the motion of this mean sun. The clocks in ordinary use and the chronometers used by navigators are regulated to mean solar time.

True, or Apparent Solar Time is measured by the motion of the real sun.

The difference between apparent and mean time is called the *Equation of Time*. By means of it, we change apparent to mean time, or the reverse. Thus, if the apparent time be given, the mean time corresponding to it will be obtained by adding or subtracting the equation of time, according to the precept at the head of the column in which it is found, on page I of the Calendar for each month. If the mean time be given, the apparent time is obtained by applying the equation of time as directed by the precept on page II of the Calendar.

Sidereal Time.—Sidereal time is measured by the daily motion of the stars; or, as it is used by astronomers, by the daily motion of that point in the equator from which the true right ascension of the stars is counted. This point is the vernal equinox, and its hour-angle is called *Sidereal Time*. Astronomical clocks, regulated to sidereal time, are called sidereal clocks.

A *Sidereal Day* is the interval of time between the transit of the vernal equinox over the meridian, and its next succeeding return to the same meridian. It is about $3^m 56^s$ shorter than the mean solar day; $365\frac{1}{4}$ solar days, or a year, being divided into $366\frac{1}{4}$ sidereal days. It is divided into 24 hours. The sidereal hours are counted from 0 to 24, commencing with the instant of the passage of the true vernal equinox over the upper meridian, and ending with its return to the same meridian. About March 21st of each year the sidereal clock agrees with the mean time, or ordinary clock, and the former gains on the latter about $3^m 56^s$ per day, so that at the end of a year it will have gained an entire day, and will again agree with the mean time clock.

Day.—The *Civil Day*, according to the customs of society, commences at midnight, and comprises twenty-four hours from one midnight to the next following. The hours are counted from 0 to 12 from midnight to noon, after which they are again reckoned from 0 to 12 from noon to midnight. Thus the day is divided into two periods of 12 hours each, of which the first is marked A. M., and the last is marked P. M.

The *Astronomical Day* commences at noon on the civil day of the same date. It also comprises twenty-four hours, but they are reckoned from 0 to 24, and from the noon of one day to that of the next following. The astronomical as well as the civil time may be either apparent or mean, according as it is reckoned from apparent noon or from mean noon.

The civil day begins twelve hours before the astronomical day; therefore the first period of the civil day answers to the last part of the preceding astronomical day, and the last period of the civil day corresponds to the first part of the same astronomical day. Thus, January 9th, 2 o'clock, A. M., civil time, is January 8th, 14^h , astronomical time; and January 9th, 2 o'clock, P. M., civil time, is also January 9th, 2^h , astronomical time. The rule, then, for the transformation of civil time into astronomical time is this:—*If the civil time is marked A. M., take one from the day and add twelve to the hours, and the result is the astronomical time wanted; if the civil time is marked P. M., take away the designation P. M., and the astronomical time is had without further change.*

To change astronomical to civil time, we simply write P. M. after it, if it is less than 12 hours. If greater than 12 hours, we subtract 12 hours from it, add 1 to the days, and write A. M. For example, January 3d, 23 hours, astronomical time, is January 4th, 11 o'clock, A. M. civil time.

If the longitude from Greenwich be expressed in time, and, when *west*, added to the local time, or, when *east*, subtracted from the local time, the result is the corresponding Greenwich time. If the local mean time is used, the result is the Greenwich mean time, which ordinarily is that required for the use of this Ephemeris. The rule is the same, whether we use mean or sidereal time.

THE CALENDAR.

The Calendar is divided into twelve months, and to each month are assigned eighteen pages, the contents of which are as follow:—

Page I contains, for Greenwich apparent noon of each day, *The Sun's Apparent Right Ascension and Declination*, and the *Equation of Time*. Adjoining columns contain the differences of these quantities for one hour. By multiplying this difference by the hours and parts of an hour from Greenwich apparent noon, and adding the amount to, or subtracting it from, the quantity at noon, according as that quantity is increasing or decreasing, we obtain the value of any quantity for any given Greenwich apparent time. The hourly differences are given for the instant of apparent noon at Greenwich, and, when greater accuracy is required, should be first interpolated for half the hours and parts of an hour of the Greenwich apparent time.

This page is chiefly used when the sun is observed on the meridian, and the local apparent time is $0^h 0^m 0^s$. The longitude from Greenwich expressed in time, if *west*, is at that instant the Greenwich apparent time, or time after Greenwich apparent noon; if *east*, it is time before

Greenwich apparent noon. The longitude of any place is therefore employed in reducing the quantities on this page to apparent noon at the place.

The right ascension of the sun thus reduced is the sidereal time of local apparent noon. The difference between it and the clock time of the meridian passage of the sun is the error of the clock on sidereal time.

The declination of the sun reduced to the meridian, or apparent noon, of the place, is required in finding the latitude from a meridian altitude of the sun.

As an example of the use of page I:—

Let the sun's declination be required at apparent noon, 1893, May 31, at a place whose longitude is $179^{\circ} 40'$, or $11^{\text{h}} 58^{\text{m}} 40^{\text{s}}$ east from Greenwich:

Local apparent time	May 31,	^h 0	^m 0	^s 0
Longitude from Greenwich (subtractive)		11	58	40
Greenwich apparent time	May 30,	12	1	20

Reducing the minutes and seconds to decimals of an hour, we find that this moment is $12^{\text{h}}.022$ after Greenwich apparent noon on May 30, or $11^{\text{h}}.978$ before Greenwich apparent noon on May 31.

On page 74 of the Ephemeris we find that the change of declination in one hour is

May 30, at Greenwich apparent noon	21'.83
May 31, at Greenwich apparent noon	20.89
Difference for one day	0.94

If we want to be very exact, we find the amount of this hourly difference for the time which is half way between Greenwich noon and the time of observation; that is, for 6 hours after Greenwich noon of the 30th, this being half of 12 hours. Six hours is 0.25 of a day; so the calculation is as follows:—

Difference for one hour, May 30	21'.83
Change for 0.25 of a day or $0''.96 \times 0.25$	0.23
Difference at 6 hours after noon	21.60
$21''.60 \times 12.022 = 259''.7 = 4' 19''.7$	
Declination at Greenwich noon, May 30	N. $21^{\circ} 51' 3.4$
Change in 12.022 hours (additive)	4 19.7
Sun's declination at time of observation	N. $21^{\circ} 55' 23.1$

When the time of observation is only a few hours before Greenwich noon, it may be better to count the longitude backward from this nearest noon. Thus, in the example just given, the time is $11^{\text{h}}.978$ before Greenwich noon of May 31; half this interval is about 0.25 of a day, and the hourly motion for the middle of the interval is $21''.125$. Then, we find:—

Declination at Greenwich noon, May 31	N. $21^{\circ} 59' 36.1$
Product of $21''.125 \times 11.978 = 253''.0$ (subtractive)	4 13.0
Sun's declination at time of observation	N. $21^{\circ} 55' 23.1$

It will always be well to make the calculation by both methods, as their agreement will show both to be right.

At sea it is ordinarily sufficient to have the declination to the nearest half minute, and the reduction may be found by Table 12 of Bowditch's *American Practical Navigator*.

The equation of time, as has been before explained, is the number of minutes and seconds to be added to or subtracted from the apparent time, or the time given by an observation of the sun, to obtain the mean time. The heading of the column directs the manner in which the equation is to be applied. When there is a change in the course of the month from addition to subtraction or the reverse (as in the months of April and June), the two different directions are separated by a line, while a corresponding line below points out the dates between which the change takes place. The equation of time, as given on page I, is the mean time of apparent noon, or the hour-angle of the mean sun at that instant.

The Sun's Semidiameter and the *Sidereal Time of Semidiameter Passing Meridian* are also given on page I. The sun's semidiameter is used in reducing the altitude of the upper or lower limb of the sun to the altitude of the center; and in reducing the angular distance of the limb from the moon or some other object, to the distance from the center of the sun. The sidereal time of semidiameter passing the meridian is employed in obtaining the passage of the sun's center over the wires of a transit-instrument, when the passage of one limb only has been observed. The quantity found in this column is to be added to the time of transit of the first, or western, limb; and to be subtracted from the time of transit of the second, or eastern, limb.

Page II contains, for Greenwich mean noon of each day, *The Sun's Apparent Right Ascension*, and *Declination*, the *Equation of Time*, and the *Sidereal Time of Mean Noon*. The hourly changes of these quantities are also given, and may be used in reducing them to any Greenwich mean time. The hourly changes may be first interpolated for half the Greenwich time, when great precision is required, in the way described in explaining the calculation of the declination.

The right ascension and declination on pages I and II are affected by aberration, and therefore denote the *apparent* position of the *true* sun. Page II is more conveniently used when the mean time is known. This is the case in most observations of the sun out of the meridian, when the times have been noted by a clock or chronometer regulated to mean time. The quantities on this page can be reduced to mean noon of any place by interpolating for the longitude, as in the example of the sun's declination on the preceding page.

The sun's declination is required for finding the latitude of the place, the local time, and the sun's azimuth and amplitude, from observations of the sun.

The equation of time is needed in finding the mean time from observations of the sun, and the latitude from observations out of the meridian. The heading of the column directs the manner in which it is to be applied to mean time to obtain the apparent time.

The equation of time, as given on page II, is the apparent time of mean noon; and is equivalent to the hour-angle of the true sun at the instant of mean noon.

The sidereal time of mean noon is also the right ascension of the mean sun at Greenwich mean noon. It may be reduced for the longitude, or to any Greenwich mean time, by using the hourly difference, 9^s.8565; or by Table III, appended to this volume, for reducing intervals of mean solar to sidereal time. Table 9 of Bowditch's *Navigator* may be used for the same purpose.

The sun's right ascension and the sidereal time of mean noon, or right ascension of the mean sun, are useful in converting mean time to sidereal time. We first find the Greenwich mean time, then the R. A. of the mean sun for this time, as last explained: this being added to the local mean time will give the sidereal time.

The sidereal time of mean noon, reduced for the longitude of the place, is also used in converting sidereal time to mean time. Subtracting the reduced value from the given sidereal time, gives the interval of sidereal time from noon. Subtracting from this the corresponding reduction of a sidereal interval to a mean time interval, in Table II, appended to this volume, or Table 8 of Bowditch's *Navigator*, will give the mean time required. This reduction may also be found by multiplying 9^s.8296 by the hours and parts of an hour of the given sidereal time.

As examples of the use of page II:—

1.—Let the sun's right ascension and the equation of time be required for 1893, May 15, 9^h 2^m 30^s, A. M., mean time, at a place whose longitude is 100° 10', or 6^h 40^m 40^s, west of Greenwich.

Local astronomical mean time	.	.	.	May 14,	^h 21	^m 2	^s 30
Longitude from Greenwich (additive)	.	.	.	.	6	40	40
Greenwich mean time.	.	.	.	May 15,	3	43	10=3 ^h .7194

<i>Sun's Right Ascension.</i>			<i>Equation of Time.</i>		
May 15, Greenwich noon	^h 3 ^m 29 ^s 54.18		May 15, noon	^m 3 ^s 50.56 (additive)	
H. D. $9^{\circ}.890 \times 3.7194$	$+ 0 \ 36.78$		H. D. $-0^{\circ}.034 \times 3.72$	$- 0.13$	
	3 30 30.96			3 50.43	

In this case, the hourly differences interpolated to half the interval, or $1^{\text{h}}.9$ after noon, have been used.

The equation of time in this example is additive to mean time. Its reduction could also have been found by Table 12 of BOWDITCH's *Navigator*, but to seconds only.

2.—If the sidereal time is required for the same date and time, we have:—

May 15, Sidereal Time (at Greenwich mean noon)	^h 3 ^m 33 ^s 44.74
Hourly difference $9^{\circ}.8565 \times 3.7194$	$+ 0 \ 36.66$
Add the local astronomical mean time	21 2 30.00
The required sidereal time is (rejecting 24^{h})	0 36 51.40

The reduction $0^{\text{m}} 36^{\text{s}}.66$ could have been found in Table III corresponding to the Greenwich mean time $3^{\text{h}} 43^{\text{m}} 10^{\text{s}}$. Also, by Table 9 of BOWDITCH's *Navigator*, the reduction is $0^{\text{m}} 36^{\text{s}}.7$.

3.—On 1893, May 15, A. M., at a place whose longitude is $100^{\circ} 10' \text{ W.}$, suppose the sidereal time to be $0^{\text{h}} 36^{\text{m}} 37^{\text{s}}.16$, and that the corresponding mean time is required.

The astronomical day is May 14; the longitude in time, $+ 6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$, or $+ 6^{\text{h}}.678$.

May 14, Sidereal Time (at Greenwich mean noon)	^h 3 ^m 29 ^s 48.18
The H. D. $9^{\circ}.8565 \times 6.678$, or the reduction for $6^{\text{h}} 40^{\text{m}} 40^{\text{s}}$ in Table III	$+ 1 \ 5.82$
The sidereal time of local mean noon	3 30 54.00
The given sidereal time ($+ 24^{\text{h}}$, if necessary for the following subtraction)	24 36 37.16
Subtracting the first from the second gives the sidereal interval from noon	21 5 43.16 = $21^{\text{h}}.09532$
$- 9^{\circ}.8296 \times 21.0795$, or the reduction for $21^{\text{h}} 4^{\text{m}} 46^{\text{s}}.14$ in Table II	$- 8 \ 27.36$
The required astronomical mean time is	May 14, 21 2 15.80

Page III contains, for Greenwich mean noon of each day, *The Sun's True Longitude* and *Latitude*, and the *Logarithm of the Radius Vector of the Earth*. The longitudes of the sun are the true longitudes, not corrected for aberration. The longitude is given in two columns, headed λ and λ' ; λ representing the sun's longitude counted from the true equinox of the date; and λ' , the same co-ordinate counted from the mean equinox of the beginning of the year, (January $0^{\text{d}}.0$). A column of hourly differences enables the computer to obtain the sun's longitude for any hour from noon. The hourly differences of the logarithm of the radius vector are likewise given. The latitude is referred to the ecliptic of the date.

The last column on page III contains the *Mean Time of Sidereal Noon*; that is, the number of hours, minutes and seconds after Greenwich mean noon when the first point of Aries passes the meridian of Greenwich. It may be reduced to any meridian by interpolating for the longitude, or to any Greenwich sidereal time by means of the hourly difference, $- 9^{\circ}.8296$. The reduction, however, can be taken directly from Table II for reducing intervals of sidereal time to mean solar time; or, approximately, from Table 8 of BOWDITCH's *Navigator*.

This column may be used in converting sidereal time to mean time instead of that on page II. As an illustration, let us take Example 3, above.

It is seen in advance that the sum of the mean time of sidereal noon and the given sidereal time is less than 24 hours. Were it more than 24 hours, the mean time of sidereal noon should be taken out for May 13, that is the preceding astronomical day.

May 14, the mean time of Greenwich sidereal noon is	^h 20 ^m 26 ^s 50.28
The H. D. $-9^{\circ}.8296 \times 6.678$, or the reduction for long., Table II	$- 1 \ 5.64$
The mean time of local sidereal noon	20 25 44.64
Add the given sidereal time	0 36 37.16 = $0^{\text{h}}.6103$
The sum is	21 2 21.80
$- 9^{\circ}.8296 \times 0.6103$, or the reduction for $0^{\text{h}} 36^{\text{m}} 37^{\text{s}}.2$ in Table II	$- 0 \ 6.00$
The required astronomical mean time	May 14, 21 2 15.80

Page IV contains *The Moon's Semidiameter* and *Equatorial Horizontal Parallax*, for each mean noon and midnight at Greenwich. Columns adjoining those of the horizontal parallax give the change of this quantity in one hour, by means of which it can be reduced to any other Greenwich mean time, in the same way as the sun's declination and the equation of time in the preceding examples. The sign plus or minus prefixed to the hourly differences, shows whether the horizontal parallax is increasing or decreasing.

The reduction of the moon's semidiameter may be readily found by multiplying the reduction of the horizontal parallax by 0.272. It may also be obtained by simply computing the proportional part.

If, for example, the semidiameter of the moon is to be taken out for 1893, June 11, 10^h, P. M., Greenwich mean time, we see that the difference of the semidiameters at noon and midnight of June 11 is 4".7; then,

$$12^h : 10^h = 4''.7 : 3''.9,$$

which is the correction to be added to the semidiameter at noon, because the semidiameter is increasing. The moon's semidiameter then, for June 11, 10^h, is 16' 31".6 + 3".9, or 16' 35".5.

The moon's semidiameter and horizontal parallax are required for all observations of the moon. When great precision is needed, the hourly differences should be first interpolated for half the interval of Greenwich time from noon or midnight, and a correction applied to the horizontal parallax for the latitude of the place of observation.

The *Mean Time of the Moon's Upper Transit at Greenwich*, which is given on page IV to tenths of a minute, is also accompanied with a column of differences for one hour of longitude, by means of which, having the longitude converted into time, the local time of the moon's meridian passage at any other place, may be computed. The reduction may be taken by simple inspection from BOWDITCH'S Table 11. The last column of this page contains the *Age* of the moon, or the time elapsed since the preceding new moon, to tenths of a day.

Pages V—XII contain *The Moon's Right Ascension*, and *Declination*, for each day and hour of Greenwich mean time. They are accompanied with columns of differences for one minute, which are also given at each hour. The Greenwich mean time, which is required for taking out these quantities, may be taken from a well-regulated chronometer, or obtained by applying the longitude converted into time, to the local mean time of the observer. The right ascension or declination is taken out for the day and hour of the Greenwich mean time; the *Diff. for 1 Minute* multiplied by the minutes and parts of a minute of the Greenwich time, and the product added to, or subtracted from the quantity, according as the quantity is increasing or decreasing.

Thus, suppose the moon's right ascension and declination are required for 1893, May 1, 10^h 10^m 30^s, astronomical mean time at Greenwich:—

	<i>Right Ascension.</i>	<i>Declination.</i>
May 1, 10 ^h	15 ^h 15 ^m 59.57 ^s	S. 20° 17' 23.2"
Diff. 1 ^h .9853 × 10.5	= + 20.84	10".162 × 10.5 = + 1 6.7
May 1, 10 ^h 10 ^m 30 ^s	15 16 20.41	S. 20 19 9.9

The differences interpolated for 5^m.2 = 0^h.09 are, for the right ascension 1^h.9853, and for the declination 10".155, which may be used for greater precision.

Page XII contains also the *Phases of the Moon* and the dates of the *Moon's Perigee* and *Apogee*, or least and greatest distances from the earth.

Pages XIII—XVIII contain the *Lunar Distances*, or the angular distances of the centre of the moon from the centre of the sun, and from the four larger planets and certain fixed stars, as they would appear to an observer at the centre of the earth. They are given for every third hour of Greenwich mean time, beginning at noon; the dates are therefore astronomical. All the distances that can be observed on the same day, are grouped together under that date; and the columns are read from left to right, across both pages of the same opening. The letter W. or E. is affixed to the name of the sun, planet or star, to indicate that it is on the west, or east side of the moon.

An observer on the earth's surface having measured a lunar distance, corrected it for errors of his instrument and for the semidiameter of the objects, and cleared it from the effects of refraction and parallax, finds the true or geocentric distance, that is, the distance as it would have appeared from the centre of the earth at the moment of observation. With this distance and the distances in the Ephemeris of the same bodies on the same day, the Greenwich mean time of the observation can be found.

To lessen the labor of computation, there is given in the Ephemeris, between every two successive distances, the logarithm of the seconds of time in which the distance changes 1"; or, as it is usually called, the *Proportional Logarithm of the Difference*. It is given for the middle instant of the two hours between which it is placed.

For computing the Greenwich time we have the following rule:—

Find in the Almanac the two distances between which the true distance falls; take out the nearer of these, the hours of Greenwich time over it, and the P. L. of Diff. between them.

Find the difference between the true distance and the distance taken from the Almanac; and from the proportional logarithm of this difference, as found in the Navigator, subtract the P. L. of Diff. taken from the Almanac.

The result is the proportional logarithm of an interval of time to be added to the hours of Greenwich time, taken from the Almanac, when the earlier Almanac-distance is used; to be subtracted from the hours of Greenwich time, when the later Almanac-distance is used.

Another method is, to add the common logarithm of the difference of the true and the Almanac-distances to the P. L. of Diff. of the Almanac; the sum will be the common logarithm of the correction to be applied to the hours of Greenwich time. Table 34 of Bowditch's *Navigator* saves the operation of reducing degrees (or hours) and minutes to seconds, and the reverse.

As the P. L. of Diff. in the Ephemeris varies, the Greenwich time found by the methods just described may not be sufficiently exact. To correct it for such variation, or second difference, take the difference between the P. L. of Diff. used and the one which follows it in the Ephemeris, (or, more strictly, half the difference of the preceding and following ones). With this difference, and the first correction of the Greenwich time already found, enter Table I, appended to this volume, and take out the corresponding seconds, which are to be added to the approximate Greenwich time when the Prop. Logs. in the Ephemeris are decreasing; and subtracted when they are increasing.

Thus the Greenwich mean time of the observation can be obtained. If the observer has noted the time of observation by a chronometer, the difference of this chronometer-time and the Greenwich mean time will be the error of the chronometer on Greenwich time as found from the lunar distance. In this way lunar distances can be used as a check upon the chronometer. By a series of carefully observed lunar distances on both sides of the moon, the chronometer-error may generally be ascertained within 20 or 30 seconds.

If the observer has found the local mean time of observation from the observed altitude of one of the bodies, or by a watch regulated to that time by recent observations and corrected for change of longitude in the interval, the difference of this local time and the Greenwich time found from the lunar distance will be his longitude. A longitude derived by this method should always be considered as uncertain by 5' or more.

As an example of finding the Greenwich mean time from a lunar distance, suppose that in 1893, Oct. 10 the corrected distance of the moon's centre from that of Antares is $40^{\circ} 10' 20''$:—

Corrected distance	.	.	.	.	.	$40^{\circ} 10' 20''$	
Distance in Ephemeris Oct. 10, VI ^h	.	.	.	.	.	$40^{\circ} 21' 32''$	P. L. 0.2835
Difference	.	.	.	.	.	$0^{\circ} 11' 12''$	P. L. 1.2061
							P. L. 0.9226
Time from VI ^h (after)	.	.	.	.	.	$+0^{\text{h}} 21^{\text{m}} 31^{\text{s}}$	
Corr. for 2d Diff., Table I	.	.	.	.	.	— 0	
Greenwich mean time Oct. 10	.	.	.	.	.	$6^{\text{h}} 21^{\text{m}} 31^{\text{s}}$	

By a table of common logarithms, or a table of logarithms of small arcs, the reduction of *Greenwich time* would be found thus :—

From Ephemeris	P. L.	0.2835
Diff. of distances, $11' 12'' = 672''$	log	2.8274
Red. of Greenwich time, $1291^s = 0^h 21^m 31^s$	log	3.1109

The result is the same as by the previous method.

Planetary Ephemerides.—Pages 218—247 contain the geocentric ephemerides of the planets Mercury, Venus, Mars, Jupiter, and Saturn. The ephemeris of each consists of its *Apparent Right Ascension* and *Declination*, with the *Variation for 1 Hour*, for Greenwich mean noon of each day; the *Mean Time of Meridian Passage*; and, at the bottom of the page, the *Semi-diameter* and *Horizontal Parallax*.

The right ascension and declination of a planet are required whenever it is observed for time, latitude or azimuth. The mode of reducing them to any instant of Greenwich mean time is the same as in the examples of the sun, previously given. The mean time of passage across any meridian can be found by dividing the daily difference by 24, and using the hourly difference thus obtained, as in the case of the moon; or, the reduction can be found by the proportion: As 24^h (or 360°) is to the longitude, so is the daily difference to the reduction required.

Positions of Fixed Stars.—Pages 248—250 contain the *Mean Places*, with their *Annual Variations*, of one hundred and fifty fixed stars for the beginning of the year 1893. The sign + indicates north declinations; the — indicates south declinations.

The right ascension of a star is also the sidereal time of its meridian passage. From this we may roughly find the mean time of meridian passage by adding the mean time of sidereal noon, on page III of the Calendar, or subtracting the sidereal time of mean noon on page II, (disregarding seconds); but we can find it more exactly by the processes already given for converting sidereal into mean time, the sidereal time being the right ascension of the star.

The right ascension and declination of a star are required whenever it is observed for time, latitude or azimuth. The mean places are sufficiently accurate for most observations at sea; but for more exact observations, the apparent places which are given in the larger volume of the Almanac, should be used.

Eclipses.—Pages 251—253 contain a brief statement of the eclipses in 1893. Pages 252 and 253 contain charts of the eclipses of the sun, which show the part of the world in which each is visible. Each of the dotted curves passes through places where the eclipse begins, or ends, at the hour or minute of Greenwich time which is marked on it. These curves aid in finding an approximate time of the beginning and end at places between them.

TABLE I.

CORRECTION REQUIRED, ON ACCOUNT OF SECOND DIFFERENCES OF THE MOON'S
MOTION, IN FINDING THE GREENWICH TIME CORRESPONDING
TO A CORRECTED LUNAR DISTANCE.

Approximate Interval.		DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																											
		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52		
h m	h m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0 0	3 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 10	2 50	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
0 20	2 40	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	5	6	6	6	6	6
0 30	2 30	0	1	1	2	2	2	2	3	3	3	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	9
0 40	2 20	0	1	1	2	2	3	3	3	4	4	5	5	6	6	6	7	7	8	8	9	9	10	10	10	11	11	11	11
0 50	2 10	1	1	2	2	3	3	4	4	5	5	6	6	7	7	7	8	8	9	9	10	10	11	12	12	12	13	13	13
1 0	2 0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10	10	11	12	12	13	13	14	14	14	14
1 10	1 50	1	1	2	2	3	4	4	5	5	6	6	7	8	8	9	9	10	10	11	12	13	14	14	15	15	15	15	15
1 20	1 40	1	1	2	3	3	4	4	5	6	6	7	8	9	9	10	10	11	12	12	13	14	14	15	15	16	16	16	16
1 30	1 30	1	1	2	3	3	4	4	5	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	16	16

Approximate Interval.		DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.																											
		54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100				
h m	h m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0 0	3 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 10	2 50	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	7	7	7	7	7
0 20	2 40	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12	12	12	12	12	12
0 30	2 30	9	10	10	10	11	11	12	12	12	13	13	13	14	14	14	14	15	15	16	16	16	17	17	17	17	17	17	17
0 40	2 20	12	12	13	13	13	14	14	15	15	16	16	16	17	17	18	18	19	19	19	20	20	21	21	21	22	22	22	22
0 50	2 10	14	14	15	15	16	16	17	17	18	19	19	20	20	21	21	22	22	23	23	23	24	24	24	25	25	25	25	25
1 0	2 0	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	28	28
1 10	1 50	16	17	17	18	18	19	19	20	21	21	22	22	23	24	24	25	25	26	27	27	28	28	29	29	30	30	30	30
1 20	1 40	17	17	18	19	19	20	20	21	21	22	23	23	24	25	25	26	26	27	28	28	29	29	30	31	31	31	31	31
1 30	1 30	17	18	18	19	19	20	21	21	22	23	23	24	24	25	25	26	27	27	28	29	29	30	31	31	31	31	31	31

Approximate Interval.		DIFFERENCE OF THE PROPORTIONAL LOGARITHMS IN THE EPHEMERIS.													
		102	104	106	108	110	112	114	116	118	120	122	124	126	128
h m	h m	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0 0	3 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 10	2 50	7	7	7	7	7	7	8	8	8	8	8	8	8	8
0 20	2 40	13	13	13	13	14	14	14	15	15	15	15	15	16	16
0 30	2 30	18	18	18	19	19	19	20	20	21	21	21	22	22	22
0 40	2 20	22	22	23	23	24	24	25	25	26	26	27	27	28	28
0 50	2 10	26	26	26	27	27	28	29	29	30	30	31	31	32	32
1 0	2 0	28	29	29	30	30	31	31	32	33	33	34	34	35	35
1 10	1 50	30	31	31	32	32	33	34	34	35	35	36	37	37	38
1 20	1 40	31	32	33	33	34	34	35	35	36	37	38	39	39	40
1 30	1 30	32	32	33	34	34	35	35	36	37	38	39	40	40	41

The correction is to be added to the approximate Greenwich time when the proportional logarithms in the Ephemeris are decreasing, and subtracted when they are increasing.

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.												
Side- real.	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h
m	m	m	m	m	m	m	m	m	m	m	m	m
s	s	s	s	s	s	s	s	s	s	s	s	s
0	0 0.0	0 9.8	0 19.7	0 29.5	0 39.3	0 49.1	0 59.0	1 8.8	1 18.6	1 28.5	1 38.3	1 48.1
1	0 0.2	0 10.0	0 19.8	0 29.7	0 39.5	0 49.3	0 59.1	1 9.0	1 18.8	1 28.6	1 38.5	1 48.3
2	0 0.3	0 10.2	0 20.0	0 29.8	0 39.6	0 49.5	0 59.3	1 9.1	1 19.0	1 28.8	1 38.6	1 48.5
3	0 0.5	0 10.3	0 20.2	0 30.0	0 39.8	0 49.6	0 59.5	1 9.3	1 19.1	1 29.0	1 38.8	1 48.6
4	0 0.7	0 10.5	0 20.3	0 30.1	0 40.0	0 49.8	0 59.6	1 9.5	1 19.3	1 29.1	1 39.0	1 48.8
5	0 0.8	0 10.6	0 20.5	0 30.3	0 40.1	0 50.0	0 59.8	1 9.6	1 19.5	1 29.3	1 39.1	1 48.9
6	0 1.0	0 10.8	0 20.6	0 30.5	0 40.3	0 50.1	1 0.0	1 9.8	1 19.6	1 29.4	1 39.3	1 49.1
7	0 1.1	0 11.0	0 20.8	0 30.6	0 40.5	0 50.3	1 0.1	1 10.0	1 19.8	1 29.6	1 39.4	1 49.3
8	0 1.3	0 11.1	0 21.0	0 30.8	0 40.6	0 50.5	1 0.3	1 10.1	1 19.9	1 29.8	1 39.6	1 49.4
9	0 1.5	0 11.3	0 21.1	0 31.0	0 40.8	0 50.6	1 0.5	1 10.3	1 20.1	1 29.9	1 39.8	1 49.6
10	0 1.6	0 11.5	0 21.3	0 31.1	0 41.0	0 50.8	1 0.6	1 10.4	1 20.3	1 30.1	1 39.9	1 49.8
11	0 1.8	0 11.6	0 21.5	0 31.3	0 41.1	0 51.0	1 0.8	1 10.6	1 20.4	1 30.3	1 40.1	1 49.9
12	0 2.0	0 11.8	0 21.6	0 31.5	0 41.3	0 51.1	1 0.9	1 10.8	1 20.6	1 30.4	1 40.3	1 50.1
13	0 2.1	0 12.0	0 21.8	0 31.6	0 41.4	0 51.3	1 1.1	1 10.9	1 20.8	1 30.6	1 40.4	1 50.3
14	0 2.3	0 12.1	0 22.0	0 31.8	0 41.6	0 51.4	1 1.3	1 11.1	1 20.9	1 30.8	1 40.6	1 50.4
15	0 2.5	0 12.3	0 22.1	0 31.9	0 41.8	0 51.6	1 1.4	1 11.3	1 21.1	1 30.9	1 40.8	1 50.6
16	0 2.6	0 12.5	0 22.3	0 32.1	0 41.9	0 51.8	1 1.6	1 11.4	1 21.3	1 31.1	1 40.9	1 50.7
17	0 2.8	0 12.6	0 22.4	0 32.3	0 42.1	0 51.9	1 1.8	1 11.6	1 21.4	1 31.3	1 41.1	1 50.9
18	0 2.9	0 12.8	0 22.6	0 32.4	0 42.3	0 52.1	1 1.9	1 11.8	1 21.6	1 31.4	1 41.2	1 51.1
19	0 3.1	0 12.9	0 22.8	0 32.6	0 42.4	0 52.3	1 2.1	1 11.9	1 21.7	1 31.6	1 41.4	1 51.3
20	0 3.3	0 13.1	0 22.9	0 32.8	0 42.6	0 52.4	1 2.3	1 12.1	1 21.9	1 31.7	1 41.6	1 51.4
21	0 3.4	0 13.3	0 23.1	0 32.9	0 42.8	0 52.6	1 2.4	1 12.2	1 22.1	1 31.9	1 41.7	1 51.6
22	0 3.6	0 13.4	0 23.3	0 33.1	0 42.9	0 52.8	1 2.6	1 12.4	1 22.2	1 32.1	1 41.9	1 51.7
23	0 3.8	0 13.6	0 23.4	0 33.3	0 43.1	0 52.9	1 2.7	1 12.6	1 22.4	1 32.2	1 42.1	1 51.9
24	0 3.9	0 13.8	0 23.6	0 33.4	0 43.2	0 53.1	1 2.9	1 12.7	1 22.6	1 32.4	1 42.2	1 52.1
25	0 4.1	0 13.9	0 23.8	0 33.6	0 43.4	0 53.2	1 3.1	1 12.9	1 22.7	1 32.6	1 42.4	1 52.3
26	0 4.3	0 14.1	0 23.9	0 33.7	0 43.6	0 53.4	1 3.2	1 13.1	1 22.9	1 32.7	1 42.6	1 52.4
27	0 4.4	0 14.3	0 24.1	0 33.9	0 43.7	0 53.6	1 3.4	1 13.2	1 23.1	1 32.9	1 42.7	1 52.5
28	0 4.6	0 14.4	0 24.2	0 34.1	0 43.9	0 53.7	1 3.6	1 13.4	1 23.2	1 33.1	1 42.9	1 52.7
29	0 4.8	0 14.6	0 24.4	0 34.2	0 44.1	0 53.9	1 3.7	1 13.6	1 23.4	1 33.2	1 43.0	1 52.9
30	0 4.9	0 14.7	0 24.6	0 34.4	0 44.2	0 54.1	1 3.9	1 13.7	1 23.6	1 33.4	1 43.2	1 53.0
31	0 5.1	0 14.9	0 24.7	0 34.6	0 44.4	0 54.2	1 4.1	1 13.9	1 23.7	1 33.5	1 43.4	1 53.3
32	0 5.2	0 15.1	0 24.9	0 34.7	0 44.6	0 54.4	1 4.2	1 14.0	1 23.9	1 33.7	1 43.5	1 53.4
33	0 5.4	0 15.2	0 25.1	0 34.9	0 44.7	0 54.6	1 4.4	1 14.2	1 24.0	1 33.9	1 43.7	1 53.5
34	0 5.6	0 15.4	0 25.2	0 35.1	0 44.9	0 54.7	1 4.5	1 14.4	1 24.2	1 34.0	1 43.9	1 53.7
35	0 5.7	0 15.6	0 25.4	0 35.2	0 45.1	0 54.9	1 4.7	1 14.5	1 24.4	1 34.2	1 44.0	1 53.9
36	0 5.9	0 15.7	0 25.6	0 35.4	0 45.2	0 55.0	1 4.9	1 14.7	1 24.5	1 34.4	1 44.2	1 54.0
37	0 6.1	0 15.9	0 25.7	0 35.6	0 45.4	0 55.2	1 5.0	1 14.9	1 24.7	1 34.5	1 44.4	1 54.3
38	0 6.2	0 16.1	0 25.9	0 35.7	0 45.5	0 55.4	1 5.2	1 15.0	1 24.9	1 34.7	1 44.5	1 54.4
39	0 6.4	0 16.2	0 26.0	0 35.9	0 45.7	0 55.5	1 5.4	1 15.2	1 25.0	1 34.9	1 44.7	1 54.5
40	0 6.6	0 16.4	0 26.2	0 36.0	0 45.9	0 55.7	1 5.5	1 15.4	1 25.2	1 35.0	1 44.8	1 54.7
41	0 6.7	0 16.5	0 26.4	0 36.2	0 46.0	0 55.9	1 5.7	1 15.5	1 25.4	1 35.2	1 45.0	1 54.8
42	0 6.9	0 16.7	0 26.5	0 36.4	0 46.2	0 56.0	1 5.9	1 15.7	1 25.5	1 35.3	1 45.2	1 55.0
43	0 7.0	0 16.9	0 26.7	0 36.5	0 46.4	0 56.2	1 6.0	1 15.9	1 25.7	1 35.5	1 45.3	1 55.2
44	0 7.2	0 17.0	0 26.9	0 36.7	0 46.5	0 56.4	1 6.2	1 16.0	1 25.8	1 35.7	1 45.5	1 55.3
45	0 7.4	0 17.2	0 27.0	0 36.9	0 46.7	0 56.5	1 6.4	1 16.2	1 26.0	1 35.8	1 45.7	1 55.5
46	0 7.5	0 17.4	0 27.2	0 37.0	0 46.9	0 56.7	1 6.5	1 16.3	1 26.2	1 36.0	1 45.8	1 55.7
47	0 7.7	0 17.5	0 27.4	0 37.2	0 47.0	0 56.8	1 6.7	1 16.5	1 26.3	1 36.2	1 46.0	1 55.8
48	0 7.9	0 17.7	0 27.5	0 37.4	0 47.2	0 57.0	1 6.8	1 16.7	1 26.5	1 36.3	1 46.2	1 56.0
49	0 8.0	0 17.9	0 27.7	0 37.5	0 47.3	0 57.2	1 7.0	1 16.8	1 26.7	1 36.5	1 46.3	1 56.2
50	0 8.2	0 18.0	0 27.8	0 37.7	0 47.5	0 57.3	1 7.2	1 17.0	1 26.8	1 36.7	1 46.5	1 56.3
51	0 8.4	0 18.2	0 28.0	0 37.8	0 47.7	0 57.5	1 7.3	1 17.2	1 27.0	1 36.8	1 46.7	1 56.5
52	0 8.5	0 18.3	0 28.2	0 38.0	0 47.8	0 57.7	1 7.5	1 17.3	1 27.2	1 37.0	1 46.8	1 56.6
53	0 8.7	0 18.5	0 28.3	0 38.2	0 48.0	0 57.8	1 7.7	1 17.5	1 27.3	1 37.1	1 47.0	1 56.8
54	0 8.8	0 18.7	0 28.5	0 38.3	0 48.2	0 58.0	1 7.8	1 17.7	1 27.5	1 37.3	1 47.1	1 57.0
55	0 9.0	0 18.8	0 28.7	0 38.5	0 48.3	0 58.2	1 8.0	1 17.8	1 27.6	1 37.5	1 47.3	1 57.1
56	0 9.2	0 19.0	0 28.8	0 38.7	0 48.5	0 58.3	1 8.2	1 18.0	1 27.8	1 37.6	1 47.5	1 57.3
57	0 9.3	0 19.2	0 29.0	0 38.8	0 48.7	0 58.5	1 8.3	1 18.1	1 28.0	1 37.8	1 47.6	1 57.5
58	0 9.5	0 19.3	0 29.2	0 39.0	0 48.8	0 58.6	1 8.5	1 18.3	1 28.1	1 38.0	1 47.8	1 57.6
59	0 9.7	0 19.5	0 29.3	0 39.2	0 49.0	0 58.8	1 8.6	1 18.5	1 28.3	1 38.1	1 48.0	1 57.8
Side- real.	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h

TABLE II.—SIDEREAL INTO MEAN SOLAR TIME.

TO BE SUBTRACTED FROM A SIDEREAL TIME INTERVAL.

Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h
m	m	m	m	m	m	m	m	m	m	m	m	m
0	1 58.0	2 7.8	2 17.6	2 27.4	2 37.3	2 47.1	2 56.9	3 6.8	3 16.6	3 26.4	3 36.2	3 46.1
1	1 58.1	2 7.9	2 17.8	2 27.6	2 37.4	2 47.3	2 57.1	3 6.9	3 16.8	3 26.6	3 36.4	3 46.2
2	1 58.3	2 8.1	2 17.9	2 27.8	2 37.6	2 47.4	2 57.3	3 7.1	3 16.9	3 26.7	3 36.6	3 46.4
3	1 58.4	2 8.3	2 18.1	2 27.9	2 37.8	2 47.6	2 57.4	3 7.2	3 17.1	3 26.9	3 36.7	3 46.6
4	1 58.6	2 8.4	2 18.3	2 28.1	2 37.9	2 47.8	2 57.6	3 7.4	3 17.2	3 27.1	3 36.9	3 46.7
5	1 58.8	2 8.6	2 18.4	2 28.3	2 38.1	2 47.9	2 57.8	3 7.6	3 17.4	3 27.2	3 37.1	3 46.9
6	1 58.9	2 8.8	2 18.6	2 28.4	2 38.3	2 48.0	2 57.9	3 7.7	3 17.6	3 27.4	3 37.2	3 47.1
7	1 59.1	2 8.9	2 18.8	2 28.6	2 38.4	2 48.2	2 58.1	3 7.0	3 17.7	3 27.6	3 37.4	3 47.2
8	1 59.3	2 9.1	2 18.9	2 28.8	2 38.6	2 48.4	2 58.2	3 8.1	3 17.9	3 27.7	3 37.6	3 47.4
9	1 59.4	2 9.3	2 19.1	2 28.9	2 38.7	2 48.6	2 58.4	3 8.2	3 18.1	3 27.9	3 37.7	3 47.6
10	1 59.6	2 9.4	2 19.3	2 29.1	2 38.9	2 48.7	2 58.6	3 8.4	3 18.2	3 28.1	3 37.9	3 47.7
11	1 59.8	2 9.6	2 19.4	2 29.2	2 39.1	2 48.9	2 58.7	3 8.6	3 18.4	3 28.2	3 38.1	3 47.9
12	1 59.9	2 9.8	2 19.6	2 29.4	2 39.2	2 49.1	2 58.9	3 8.7	3 18.6	3 28.4	3 38.2	3 48.0
13	2 0.1	2 9.9	2 19.7	2 29.6	2 39.4	2 49.2	2 59.1	3 8.9	3 18.7	3 28.6	3 38.4	3 48.2
14	2 0.2	2 10.1	2 19.9	2 29.7	2 39.6	2 49.4	2 59.2	3 9.1	3 18.9	3 28.7	3 38.5	3 48.4
15	2 0.4	2 10.2	2 20.1	2 29.9	2 39.7	2 49.6	2 59.4	3 9.2	3 19.0	3 28.9	3 38.7	3 48.5
16	2 0.6	2 10.4	2 20.2	2 30.1	2 39.9	2 49.7	2 59.6	3 9.4	3 19.2	3 29.0	3 38.9	3 48.7
17	2 0.7	2 10.6	2 20.4	2 30.2	2 40.1	2 49.9	2 59.7	3 9.5	3 19.4	3 29.2	3 39.0	3 48.9
18	2 0.9	2 10.7	2 20.6	2 30.4	2 40.2	2 50.1	2 59.9	3 9.7	3 19.5	3 29.4	3 39.2	3 49.0
19	2 1.1	2 10.9	2 20.7	2 30.6	2 40.4	2 50.2	3 0.0	3 9.9	3 19.7	3 29.5	3 39.4	3 49.2
20	2 1.2	2 11.1	2 20.9	2 30.7	2 40.5	2 50.4	3 0.2	3 10.0	3 19.9	3 29.7	3 39.5	3 49.4
21	2 1.4	2 11.2	2 21.1	2 30.9	2 40.7	2 50.5	3 0.4	3 10.2	3 20.0	3 29.9	3 39.7	3 49.5
22	2 1.6	2 11.4	2 21.2	2 31.0	2 40.9	2 50.7	3 0.5	3 10.4	3 20.2	3 30.0	3 39.9	3 49.7
23	2 1.7	2 11.6	2 21.4	2 31.2	2 41.0	2 50.9	3 0.7	3 10.5	3 20.4	3 30.2	3 40.0	3 49.8
24	2 1.9	2 11.7	2 21.5	2 31.4	2 41.2	2 51.0	3 0.9	3 10.7	3 20.5	3 30.4	3 40.2	3 50.0
25	2 2.0	2 11.9	2 21.7	2 31.5	2 41.4	2 51.2	3 1.0	3 10.9	3 20.7	3 30.5	3 40.3	3 50.2
26	2 2.2	2 12.0	2 21.9	2 31.7	2 41.5	2 51.4	3 1.2	3 11.0	3 20.9	3 30.7	3 40.5	3 50.3
27	2 2.4	2 12.2	2 22.0	2 31.9	2 41.7	2 51.5	3 1.4	3 11.2	3 21.0	3 30.8	3 40.7	3 50.5
28	2 2.5	2 12.4	2 22.2	2 32.0	2 41.9	2 51.7	3 1.5	3 11.3	3 21.2	3 31.0	3 40.8	3 50.7
29	2 2.7	2 12.5	2 22.4	2 32.2	2 42.0	2 51.9	3 1.7	3 11.5	3 21.3	3 31.2	3 41.0	3 50.8
30	2 2.9	2 12.7	2 22.5	2 32.4	2 42.2	2 52.0	3 1.8	3 11.7	3 21.5	3 31.3	3 41.2	3 51.0
31	2 3.0	2 12.9	2 22.7	2 32.5	2 42.4	2 52.2	3 2.0	3 11.8	3 21.7	3 31.5	3 41.3	3 51.2
32	2 3.2	2 13.0	2 22.9	2 32.7	2 42.5	2 52.3	3 2.2	3 12.0	3 21.8	3 31.7	3 41.5	3 51.3
33	2 3.4	2 13.2	2 23.0	2 32.8	2 42.7	2 52.5	3 2.3	3 12.2	3 22.0	3 31.8	3 41.7	3 51.5
34	2 3.5	2 13.4	2 23.2	2 33.0	2 42.8	2 52.7	3 2.5	3 12.3	3 22.2	3 32.0	3 41.8	3 51.6
35	2 3.7	2 13.5	2 23.3	2 33.2	2 43.0	2 52.8	3 2.7	3 12.5	3 22.3	3 32.2	3 42.0	3 51.8
36	2 3.9	2 13.7	2 23.5	2 33.3	2 43.2	2 53.0	3 2.8	3 12.7	3 22.5	3 32.3	3 42.1	3 52.0
37	2 4.0	2 13.8	2 23.7	2 33.5	2 43.3	2 53.2	3 3.0	3 12.8	3 22.7	3 32.5	3 42.3	3 52.1
38	2 4.2	2 14.0	2 23.8	2 33.7	2 43.5	2 53.3	3 3.2	3 13.0	3 22.8	3 32.6	3 42.5	3 52.3
39	2 4.3	2 14.2	2 24.0	2 33.8	2 43.7	2 53.5	3 3.3	3 13.2	3 23.0	3 32.8	3 42.6	3 52.5
40	2 4.5	2 14.3	2 24.2	2 34.0	2 43.8	2 53.7	3 3.5	3 13.3	3 23.1	3 33.0	3 42.8	3 52.6
41	2 4.7	2 14.5	2 24.3	2 34.2	2 44.0	2 53.8	3 3.6	3 13.5	3 23.3	3 33.1	3 43.0	3 52.8
42	2 4.8	2 14.7	2 24.5	2 34.3	2 44.2	2 54.0	3 3.8	3 13.6	3 23.5	3 33.3	3 43.1	3 53.0
43	2 5.0	2 14.8	2 24.7	2 34.5	2 44.3	2 54.1	3 4.0	3 13.8	3 23.6	3 33.5	3 43.3	3 53.1
44	2 5.2	2 15.0	2 24.8	2 34.7	2 44.5	2 54.3	3 4.1	3 14.0	3 23.8	3 33.6	3 43.5	3 53.3
45	2 5.3	2 15.2	2 25.0	2 34.8	2 44.6	2 54.5	3 4.3	3 14.1	3 24.0	3 33.8	3 43.6	3 53.5
46	2 5.5	2 15.3	2 25.2	2 35.0	2 44.8	2 54.6	3 4.5	3 14.3	3 24.1	3 34.0	3 43.8	3 53.6
47	2 5.7	2 15.5	2 25.3	2 35.1	2 45.0	2 54.8	3 4.6	3 14.5	3 24.3	3 34.1	3 44.0	3 53.8
48	2 5.8	2 15.6	2 25.5	2 35.3	2 45.1	2 55.0	3 4.8	3 14.6	3 24.5	3 34.3	3 44.1	3 53.9
49	2 6.0	2 15.8	2 25.6	2 35.5	2 45.3	2 55.1	3 5.0	3 14.8	3 24.6	3 34.4	3 44.3	3 54.1
50	2 6.1	2 16.0	2 25.8	2 35.6	2 45.5	2 55.3	3 5.1	3 15.0	3 24.8	3 34.6	3 44.4	3 54.3
51	2 6.3	2 16.1	2 26.0	2 35.8	2 45.6	2 55.5	3 5.3	3 15.1	3 24.9	3 34.8	3 44.6	3 54.4
52	2 6.5	2 16.3	2 26.1	2 36.0	2 45.8	2 55.6	3 5.5	3 15.3	3 25.1	3 34.9	3 44.8	3 54.6
53	2 6.6	2 16.5	2 26.3	2 36.1	2 46.0	2 55.8	3 5.6	3 15.4	3 25.3	3 35.1	3 44.9	3 54.8
54	2 6.8	2 16.6	2 26.5	2 36.3	2 46.1	2 55.9	3 5.8	3 15.6	3 25.4	3 35.3	3 45.1	3 54.9
55	2 7.0	2 16.8	2 26.6	2 36.5	2 46.3	2 56.1	3 5.9	3 15.8	3 25.6	3 35.4	3 45.3	3 55.1
56	2 7.1	2 17.0	2 26.8	2 36.6	2 46.4	2 56.3	3 6.1	3 15.9	3 25.8	3 35.6	3 45.4	3 55.3
57	2 7.3	2 17.1	2 27.0	2 36.8	2 46.6	2 56.4	3 6.3	3 16.1	3 25.9	3 35.8	3 45.6	3 55.4
58	2 7.5	2 17.3	2 27.1	2 36.9	2 46.8	2 56.6	3 6.4	3 16.3	3 26.1	3 35.9	3 45.8	3 55.6
59	2 7.6	2 17.4	2 27.3	2 37.1	2 46.9	2 56.8	3 6.6	3 16.4	3 26.3	3 36.1	3 45.9	3 55.7
Side- real.	12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.												
Mean Solar.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
s	s	s	s	s	s	s	s	s	s	s	s	s
0	0 0.0	0 9.9	0 19.7	0 29.6	0 39.4	0 49.3	0 59.1	1 9.0	1 18.9	1 28.7	1 38.6	1 48.4
1	0 0.2	0 10.0	0 19.9	0 29.7	0 39.6	0 49.4	0 59.3	1 9.2	1 19.0	1 28.9	1 38.7	1 48.6
2	0 0.3	0 10.2	0 20.0	0 29.9	0 39.8	0 49.6	0 59.5	1 9.3	1 19.2	1 29.0	1 38.9	1 48.8
3	0 0.5	0 10.3	0 20.2	0 30.1	0 39.9	0 49.8	0 59.6	1 9.5	1 19.3	1 29.2	1 39.1	1 48.9
4	0 0.7	0 10.5	0 20.4	0 30.2	0 40.1	0 49.9	0 59.8	1 9.7	1 19.5	1 29.4	1 39.2	1 49.1
5	0 0.8	0 10.7	0 20.5	0 30.4	0 40.2	0 50.1	1 0.0	1 9.8	1 19.7	1 29.5	1 39.4	1 49.2
6	0 1.0	0 10.8	0 20.7	0 30.6	0 40.4	0 50.3	1 0.1	1 10.0	1 19.8	1 29.7	1 39.6	1 49.4
7	0 1.2	0 11.0	0 20.9	0 30.7	0 40.6	0 50.4	1 0.3	1 10.1	1 20.0	1 29.9	1 39.7	1 49.6
8	0 1.3	0 11.2	0 21.0	0 30.9	0 40.7	0 50.6	1 0.5	1 10.3	1 20.2	1 30.0	1 39.9	1 49.7
9	0 1.5	0 11.3	0 21.2	0 31.0	0 40.9	0 50.8	1 0.6	1 10.5	1 20.3	1 30.2	1 40.0	1 49.9
10	0 1.6	0 11.5	0 21.4	0 31.2	0 41.1	0 50.9	1 0.8	1 10.6	1 20.5	1 30.4	1 40.2	1 50.1
11	0 1.8	0 11.7	0 21.5	0 31.4	0 41.2	0 51.1	1 0.9	1 10.8	1 20.7	1 30.5	1 40.4	1 50.2
12	0 2.0	0 11.8	0 21.7	0 31.5	0 41.4	0 51.3	1 1.1	1 11.0	1 20.8	1 30.7	1 40.5	1 50.4
13	0 2.1	0 12.0	0 21.8	0 31.7	0 41.6	0 51.4	1 1.3	1 11.1	1 21.0	1 30.8	1 40.7	1 50.6
14	0 2.3	0 12.2	0 22.0	0 31.9	0 41.7	0 51.6	1 1.4	1 11.3	1 21.2	1 31.0	1 40.9	1 50.7
15	0 2.5	0 12.3	0 22.2	0 32.0	0 41.9	0 51.7	1 1.6	1 11.5	1 21.3	1 31.2	1 41.0	1 50.9
16	0 2.6	0 12.5	0 22.3	0 32.2	0 42.1	0 51.9	1 1.8	1 11.6	1 21.5	1 31.3	1 41.2	1 51.0
17	0 2.8	0 12.6	0 22.5	0 32.4	0 42.2	0 52.1	1 1.9	1 11.8	1 21.6	1 31.5	1 41.4	1 51.2
18	0 3.0	0 12.8	0 22.7	0 32.5	0 42.4	0 52.2	1 2.1	1 12.0	1 21.8	1 31.7	1 41.5	1 51.4
19	0 3.1	0 13.0	0 22.8	0 32.7	0 42.5	0 52.4	1 2.3	1 12.1	1 22.0	1 31.8	1 41.7	1 51.5
20	0 3.3	0 13.1	0 23.0	0 32.9	0 42.7	0 52.6	1 2.4	1 12.3	1 22.1	1 32.0	1 41.8	1 51.7
21	0 3.4	0 13.3	0 23.2	0 33.0	0 42.9	0 52.7	1 2.6	1 12.4	1 22.3	1 32.2	1 42.0	1 51.9
22	0 3.6	0 13.5	0 23.3	0 33.2	0 43.0	0 52.9	1 2.8	1 12.6	1 22.5	1 32.3	1 42.2	1 52.0
23	0 3.8	0 13.6	0 23.5	0 33.3	0 43.2	0 53.1	1 2.9	1 12.8	1 22.6	1 32.5	1 42.3	1 52.2
24	0 3.9	0 13.8	0 23.7	0 33.5	0 43.4	0 53.2	1 3.1	1 12.9	1 22.8	1 32.7	1 42.5	1 52.4
25	0 4.1	0 14.0	0 23.8	0 33.7	0 43.5	0 53.4	1 3.2	1 13.1	1 23.0	1 32.8	1 42.7	1 52.5
26	0 4.3	0 14.1	0 24.0	0 33.8	0 43.7	0 53.6	1 3.4	1 13.3	1 23.1	1 33.0	1 42.8	1 52.7
27	0 4.4	0 14.3	0 24.1	0 34.0	0 43.9	0 53.7	1 3.6	1 13.4	1 23.3	1 33.1	1 43.0	1 52.9
28	0 4.6	0 14.5	0 24.3	0 34.2	0 44.0	0 53.9	1 3.7	1 13.6	1 23.5	1 33.3	1 43.2	1 53.0
29	0 4.8	0 14.6	0 24.5	0 34.3	0 44.2	0 54.0	1 3.9	1 13.8	1 23.6	1 33.5	1 43.3	1 53.2
30	0 4.9	0 14.8	0 24.6	0 34.5	0 44.4	0 54.2	1 4.1	1 13.9	1 23.8	1 33.6	1 43.5	1 53.3
31	0 5.1	0 14.9	0 24.8	0 34.7	0 44.5	0 54.4	1 4.2	1 14.1	1 23.9	1 33.8	1 43.7	1 53.5
32	0 5.3	0 15.1	0 25.0	0 34.8	0 44.7	0 54.5	1 4.4	1 14.3	1 24.1	1 34.0	1 43.8	1 53.7
33	0 5.4	0 15.3	0 25.1	0 35.0	0 44.8	0 54.7	1 4.6	1 14.4	1 24.3	1 34.1	1 44.0	1 53.8
34	0 5.6	0 15.4	0 25.3	0 35.2	0 45.0	0 54.9	1 4.7	1 14.6	1 24.4	1 34.3	1 44.2	1 54.0
35	0 5.8	0 15.6	0 25.5	0 35.3	0 45.2	0 55.0	1 4.9	1 14.7	1 24.6	1 34.5	1 44.3	1 54.2
36	0 5.9	0 15.8	0 25.6	0 35.5	0 45.3	0 55.2	1 5.1	1 14.9	1 24.8	1 34.6	1 44.5	1 54.3
37	0 6.1	0 15.9	0 25.8	0 35.6	0 45.5	0 55.4	1 5.2	1 15.1	1 24.9	1 34.8	1 44.6	1 54.5
38	0 6.2	0 16.1	0 26.0	0 35.8	0 45.7	0 55.5	1 5.4	1 15.2	1 25.1	1 35.0	1 44.8	1 54.7
39	0 6.4	0 16.3	0 26.1	0 36.0	0 45.8	0 55.7	1 5.5	1 15.4	1 25.3	1 35.1	1 45.0	1 54.8
40	0 6.6	0 16.4	0 26.3	0 36.1	0 46.0	0 55.9	1 5.7	1 15.6	1 25.4	1 35.3	1 45.1	1 55.0
41	0 6.7	0 16.6	0 26.4	0 36.3	0 46.2	0 56.0	1 5.9	1 15.7	1 25.6	1 35.4	1 45.3	1 55.2
42	0 6.9	0 16.8	0 26.6	0 36.5	0 46.3	0 56.2	1 6.0	1 15.9	1 25.8	1 35.6	1 45.5	1 55.3
43	0 7.1	0 16.9	0 26.8	0 36.6	0 46.5	0 56.3	1 6.2	1 16.1	1 25.9	1 35.8	1 45.6	1 55.5
44	0 7.2	0 17.1	0 26.9	0 36.8	0 46.7	0 56.5	1 6.4	1 16.2	1 26.1	1 35.9	1 45.8	1 55.6
45	0 7.4	0 17.2	0 27.1	0 37.0	0 46.8	0 56.7	1 6.5	1 16.4	1 26.2	1 36.1	1 46.0	1 55.8
46	0 7.6	0 17.4	0 27.3	0 37.1	0 47.0	0 56.8	1 6.7	1 16.6	1 26.4	1 36.3	1 46.1	1 56.0
47	0 7.7	0 17.6	0 27.4	0 37.3	0 47.1	0 57.0	1 6.9	1 16.7	1 26.6	1 36.4	1 46.3	1 56.1
48	0 7.9	0 17.7	0 27.6	0 37.5	0 47.3	0 57.2	1 7.0	1 16.9	1 26.7	1 36.6	1 46.4	1 56.3
49	0 8.0	0 17.9	0 27.8	0 37.6	0 47.5	0 57.3	1 7.2	1 17.0	1 26.9	1 36.8	1 46.6	1 56.5
50	0 8.2	0 18.1	0 27.9	0 37.8	0 47.6	0 57.5	1 7.4	1 17.2	1 27.1	1 36.9	1 46.8	1 56.6
51	0 8.4	0 18.2	0 28.1	0 37.9	0 47.8	0 57.7	1 7.5	1 17.4	1 27.2	1 37.1	1 46.9	1 56.8
52	0 8.5	0 18.4	0 28.3	0 38.1	0 48.0	0 57.8	1 7.7	1 17.5	1 27.4	1 37.3	1 47.1	1 57.0
53	0 8.7	0 18.6	0 28.4	0 38.3	0 48.1	0 58.0	1 7.8	1 17.7	1 27.6	1 37.4	1 47.3	1 57.1
54	0 8.9	0 18.7	0 28.6	0 38.4	0 48.3	0 58.2	1 8.0	1 17.9	1 27.7	1 37.6	1 47.4	1 57.3
55	0 9.0	0 18.9	0 28.7	0 38.6	0 48.5	0 58.3	1 8.2	1 18.0	1 27.9	1 37.7	1 47.6	1 57.5
56	0 9.2	0 19.1	0 28.9	0 38.8	0 48.6	0 58.5	1 8.3	1 18.2	1 28.1	1 37.9	1 47.8	1 57.6
57	0 9.4	0 19.2	0 29.1	0 38.9	0 48.8	0 58.6	1 8.5	1 18.4	1 28.2	1 38.1	1 47.9	1 57.8
58	0 9.5	0 19.4	0 29.2	0 39.1	0 49.0	0 58.8	1 8.7	1 18.5	1 28.4	1 38.2	1 48.1	1 57.9
59	0 9.7	0 19.5	0 29.4	0 39.3	0 49.1	0 59.0	1 8.8	1 18.7	1 28.5	1 38.4	1 48.3	1 58.1
Mean Solar.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .

TABLE III.—MEAN SOLAR INTO SIDEREAL TIME.

TO BE ADDED TO A MEAN TIME INTERVAL.

Mean Solar.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .
m	m	m	m	m	m	m	m	m	m	m	m	m
0	1 58.3	2 8.1	2 18.0	2 27.8	2 37.7	2 47.6	2 57.4	3 7.3	3 17.1	3 27.0	3 36.8	3 46.7
1	1 58.4	2 8.3	2 18.2	2 28.0	2 37.9	2 47.7	2 57.6	3 7.4	3 17.3	3 27.2	3 37.0	3 46.9
2	1 58.6	2 8.5	2 18.3	2 28.2	2 38.0	2 47.9	2 57.7	3 7.6	3 17.5	3 27.3	3 37.2	3 47.0
3	1 58.8	2 8.6	2 18.5	2 28.3	2 38.2	2 48.1	2 57.9	3 7.8	3 17.6	3 27.5	3 37.3	3 47.2
4	1 58.9	2 8.8	2 18.6	2 28.5	2 38.4	2 48.2	2 58.1	3 7.9	3 17.8	3 27.6	3 37.5	3 47.4
5	1 59.1	2 9.0	2 18.8	2 28.7	2 38.5	2 48.4	2 58.2	3 8.1	3 18.0	3 27.8	3 37.7	3 47.5
6	1 59.3	2 9.1	2 19.0	2 28.8	2 38.7	2 48.5	2 58.4	3 8.3	3 18.1	3 28.0	3 37.8	3 47.7
7	1 59.4	2 9.3	2 19.1	2 29.0	2 38.9	2 48.7	2 58.6	3 8.4	3 18.3	3 28.1	3 38.0	3 47.8
8	1 59.6	2 9.4	2 19.3	2 29.2	2 39.0	2 48.9	2 58.7	3 8.6	3 18.4	3 28.3	3 38.2	3 48.0
9	1 59.8	2 9.6	2 19.5	2 29.3	2 39.2	2 49.0	2 58.9	3 8.8	3 18.6	3 28.5	3 38.3	3 48.2
10	1 59.9	2 9.8	2 19.6	2 29.5	2 39.3	2 49.2	2 59.1	3 8.9	3 18.8	3 28.6	3 38.5	3 48.3
11	2 0.1	2 9.9	2 19.8	2 29.7	2 39.5	2 49.4	2 59.2	3 9.1	3 18.9	3 28.8	3 38.6	3 48.5
12	2 0.2	2 10.1	2 20.0	2 29.8	2 39.7	2 49.5	2 59.4	3 9.2	3 19.1	3 29.0	3 38.8	3 48.7
13	2 0.4	2 10.3	2 20.1	2 30.0	2 39.8	2 49.7	2 59.6	3 9.4	3 19.3	3 29.1	3 39.0	3 48.8
14	2 0.6	2 10.4	2 20.3	2 30.1	2 40.0	2 49.9	2 59.7	3 9.6	3 19.4	3 29.3	3 39.1	3 49.0
15	2 0.7	2 10.6	2 20.5	2 30.3	2 40.2	2 50.0	2 59.9	3 9.7	3 19.6	3 29.4	3 39.3	3 49.2
16	2 0.9	2 10.8	2 20.6	2 30.5	2 40.3	2 50.2	3 0.0	3 9.9	3 19.8	3 29.6	3 39.5	3 49.3
17	2 1.1	2 10.9	2 20.8	2 30.6	2 40.5	2 50.4	3 0.2	3 10.1	3 19.9	3 29.8	3 39.6	3 49.5
18	2 1.2	2 11.1	2 20.9	2 30.8	2 40.7	2 50.5	3 0.4	3 10.2	3 20.1	3 29.9	3 39.8	3 49.7
19	2 1.4	2 11.3	2 21.1	2 31.0	2 40.8	2 50.7	3 0.5	3 10.4	3 20.3	3 30.1	3 40.0	3 49.8
20	2 1.6	2 11.4	2 21.3	2 31.1	2 41.0	2 50.8	3 0.7	3 10.6	3 20.4	3 30.3	3 40.1	3 50.0
21	2 1.7	2 11.6	2 21.4	2 31.3	2 41.2	2 51.0	3 0.9	3 10.7	3 20.6	3 30.4	3 40.3	3 50.1
22	2 1.9	2 11.7	2 21.6	2 31.5	2 41.3	2 51.2	3 1.0	3 10.9	3 20.7	3 30.6	3 40.5	3 50.3
23	2 2.1	2 11.9	2 21.8	2 31.6	2 41.5	2 51.3	3 1.2	3 11.1	3 20.9	3 30.8	3 40.6	3 50.5
24	2 2.2	2 12.1	2 21.9	2 31.8	2 41.6	2 51.5	3 1.4	3 11.2	3 21.1	3 30.9	3 40.8	3 50.6
25	2 2.4	2 12.2	2 22.1	2 32.0	2 41.8	2 51.7	3 1.5	3 11.4	3 21.2	3 31.1	3 40.9	3 50.8
26	2 2.5	2 12.4	2 22.3	2 32.1	2 42.0	2 51.8	3 1.7	3 11.5	3 21.4	3 31.3	3 41.1	3 51.0
27	2 2.7	2 12.6	2 22.4	2 32.3	2 42.1	2 52.0	3 1.9	3 11.7	3 21.6	3 31.4	3 41.3	3 51.1
28	2 2.9	2 12.7	2 22.6	2 32.4	2 42.3	2 52.2	3 2.0	3 11.9	3 21.7	3 31.6	3 41.4	3 51.3
29	2 3.0	2 12.9	2 22.8	2 32.6	2 42.5	2 52.3	3 2.2	3 12.0	3 21.9	3 31.8	3 41.6	3 51.5
30	2 3.2	2 13.1	2 22.9	2 32.8	2 42.6	2 52.5	3 2.3	3 12.2	3 22.1	3 31.9	3 41.8	3 51.6
31	2 3.4	2 13.2	2 23.1	2 32.9	2 42.8	2 52.7	3 2.5	3 12.4	3 22.2	3 32.1	3 41.9	3 51.8
32	2 3.5	2 13.4	2 23.2	2 33.1	2 43.0	2 52.8	3 2.7	3 12.5	3 22.4	3 32.2	3 42.1	3 52.0
33	2 3.7	2 13.6	2 23.4	2 33.3	2 43.1	2 53.0	3 2.8	3 12.7	3 22.6	3 32.4	3 42.3	3 52.1
34	2 3.9	2 13.7	2 23.6	2 33.4	2 43.3	2 53.1	3 3.0	3 12.9	3 22.7	3 32.6	3 42.4	3 52.3
35	2 4.0	2 13.9	2 23.7	2 33.6	2 43.5	2 53.3	3 3.2	3 13.0	3 22.9	3 32.7	3 42.6	3 52.4
36	2 4.2	2 14.0	2 23.9	2 33.8	2 43.6	2 53.5	3 3.3	3 13.2	3 23.0	3 32.9	3 42.8	3 52.6
37	2 4.4	2 14.2	2 24.1	2 33.9	2 43.8	2 53.6	3 3.5	3 13.4	3 23.2	3 33.1	3 42.9	3 52.8
38	2 4.5	2 14.4	2 24.2	2 34.1	2 43.9	2 53.8	3 3.7	3 13.5	3 23.4	3 33.2	3 43.1	3 52.9
39	2 4.7	2 14.5	2 24.4	2 34.3	2 44.1	2 54.0	3 3.8	3 13.7	3 23.5	3 33.4	3 43.2	3 53.1
40	2 4.8	2 14.7	2 24.6	2 34.4	2 44.3	2 54.1	3 4.0	3 13.8	3 23.7	3 33.6	3 43.4	3 53.3
41	2 5.0	2 14.9	2 24.7	2 34.6	2 44.4	2 54.3	3 4.2	3 14.0	3 23.9	3 33.7	3 43.6	3 53.4
42	2 5.2	2 15.0	2 24.9	2 34.7	2 44.6	2 54.5	3 4.3	3 14.2	3 24.0	3 33.9	3 43.7	3 53.6
43	2 5.3	2 15.2	2 25.1	2 34.9	2 44.8	2 54.6	3 4.5	3 14.3	3 24.2	3 34.0	3 43.9	3 53.8
44	2 5.5	2 15.4	2 25.2	2 35.1	2 44.9	2 54.8	3 4.6	3 14.5	3 24.4	3 34.2	3 44.1	3 53.9
45	2 5.7	2 15.5	2 25.4	2 35.2	2 45.1	2 55.0	3 4.8	3 14.7	3 24.5	3 34.4	3 44.2	3 54.1
46	2 5.8	2 15.7	2 25.5	2 35.4	2 45.3	2 55.1	3 5.0	3 14.8	3 24.7	3 34.5	3 44.4	3 54.3
47	2 6.0	2 15.9	2 25.7	2 35.6	2 45.4	2 55.3	3 5.1	3 15.0	3 24.8	3 34.7	3 44.6	3 54.4
48	2 6.2	2 16.0	2 25.9	2 35.7	2 45.6	2 55.4	3 5.3	3 15.2	3 25.0	3 34.9	3 44.7	3 54.6
49	2 6.3	2 16.2	2 26.0	2 35.9	2 45.8	2 55.6	3 5.5	3 15.3	3 25.2	3 35.0	3 44.9	3 54.7
50	2 6.5	2 16.3	2 26.2	2 36.1	2 45.9	2 55.8	3 5.6	3 15.5	3 25.3	3 35.2	3 45.1	3 54.9
51	2 6.7	2 16.5	2 26.4	2 36.2	2 46.1	2 55.9	3 5.8	3 15.7	3 25.5	3 35.4	3 45.2	3 55.1
52	2 6.8	2 16.7	2 26.5	2 36.4	2 46.2	2 56.1	3 6.0	3 15.8	3 25.7	3 35.5	3 45.4	3 55.2
53	2 7.0	2 16.8	2 26.7	2 36.6	2 46.4	2 56.3	3 6.1	3 16.0	3 25.8	3 35.7	3 45.5	3 55.4
54	2 7.1	2 17.0	2 26.9	2 36.7	2 46.6	2 56.4	3 6.3	3 16.1	3 26.0	3 35.9	3 45.7	3 55.6
55	2 7.3	2 17.2	2 27.0	2 36.9	2 46.7	2 56.6	3 6.5	3 16.3	3 26.2	3 36.0	3 45.9	3 55.7
56	2 7.5	2 17.3	2 27.2	2 37.0	2 46.9	2 56.8	3 6.6	3 16.5	3 26.3	3 36.2	3 46.0	3 55.9
57	2 7.6	2 17.5	2 27.4	2 37.2	2 47.1	2 56.9	3 6.8	3 16.6	3 26.5	3 36.4	3 46.2	3 56.1
58	2 7.8	2 17.7	2 27.5	2 37.4	2 47.2	2 57.1	3 6.9	3 16.8	3 26.7	3 36.5	3 46.4	3 56.2
59	2 8.0	2 17.8	2 27.7	2 37.5	2 47.4	2 57.3	3 7.1	3 17.0	3 26.8	3 36.7	3 46.5	3 56.4
Mean Solar.	12 ^h .	13 ^h .	14 ^h .	15 ^h .	16 ^h .	17 ^h .	18 ^h .	19 ^h .	20 ^h .	21 ^h .	22 ^h .	23 ^h .

TABLE IV.—LATITUDE BY POLARIS.

TABLE FOR FINDING THE LATITUDE BY AN OBSERVED ALTITUDE OF POLARIS.

Reduce the observed altitude of Polaris to the true altitude.

Reduce the recorded time of observation to local sidereal time.

If the sidereal time is $\left\{ \begin{array}{l} \text{less than } 1^{\text{h}} 19^{\text{m}}.1, \text{ subtract it from } 1^{\text{h}} 19^{\text{m}}.1; \\ \text{between } 1^{\text{h}} 19^{\text{m}}.1 \text{ and } 13^{\text{h}} 19^{\text{m}}.1, \text{ subtract } 1^{\text{h}} 19^{\text{m}}.1 \text{ from it;} \\ \text{greater than } 13^{\text{h}} 19^{\text{m}}.1, \text{ subtract it from } 25^{\text{h}} 19^{\text{m}}.1; \end{array} \right.$

and the remainder is the hour-angle of Polaris.

With this hour-angle take out the correction from Table IV (below), and add it to or subtract it from the true altitude, according to its sign. The result is the latitude of the place.

Example.—1893, November 10, at 9^h 29^m 29^s, P. M., mean solar time, in longitude 29° east of Greenwich, suppose the true altitude of Polaris to be 29° 29': required the latitude of the place.

Local astronomical mean time	h m s
	9 29 29
Reduction from Table III, for 9 ^h 29 ^m 29 ^s	+ 1 34
Greenwich sidereal time of mean noon, November 10, page 183	15 19 28.3
Reduction from Table III, for longitude (= 1 ^h 56 ^m east, or minus)	— 0 19
Sum (having regard to signs) is equal to local sidereal time	0 50 12.3
	h m s
	1 19 6
Subtract sidereal time	0 50 12.3
Remainder is equal to hour-angle of Polaris	0 28 53.7
True altitude	+ 29 29.0
Correction from Table IV (below)	— 1 15.2
Approximate Latitude	+ 28 13.8

TABLE IV—1893.

Hour-Angle.	0 ^h .	1 ^h .	2 ^h .	3 ^h .	4 ^h .	5 ^h .
m						
0	— 1 15.9 0.0	— 1 13.3 0.5	— 1 5.6 0.9	— 0 53.3 1.2	— 0 37.1 1.4	— 0 18.7 1.6
5	1 15.9 0.1	1 12.8 0.5	1 4.7 0.9	0 52.1 1.3	0 35.7 1.5	0 17.1 1.6
10	1 15.8 0.1	1 12.3 0.5	1 3.8 0.9	0 50.8 1.3	0 34.2 1.5	0 15.5 1.6
15	1 15.7 0.1	1 11.8 0.6	1 2.9 0.9	0 49.6 1.3	0 32.7 1.5	0 13.9 1.6
20	— 1 15.6 0.2	— 1 11.2 0.6	— 1 1.9 1.0	— 0 48.3 1.3	— 0 31.2 1.4	— 0 12.3 1.6
25	1 15.4 0.2	1 10.6 0.6	1 0.9 1.0	0 47.0 1.3	0 29.8 1.4	0 10.7 1.7
30	1 15.2 0.2	1 10.0 0.6	0 59.9 1.0	0 45.7 1.3	0 28.3 1.5	0 9.0 1.7
35	1 15.0 0.2	1 9.4 0.6	0 58.8 1.1	0 44.3 1.4	0 26.7 1.6	0 7.4 1.6
40	— 1 14.8 0.3	— 1 8.7 0.7	— 0 57.7 1.0	— 0 42.9 1.4	— 0 25.1 1.5	— 0 5.8 1.7
45	1 14.5 0.3	1 8.0 0.7	0 56.7 1.1	0 41.5 1.4	0 23.6 1.6	0 4.1 1.7
50	1 14.1 0.4	1 7.2 0.8	0 55.6 1.1	0 40.1 1.4	0 22.0 1.6	0 2.4 1.6
55	1 13.7 0.4	1 6.4 0.8	0 54.5 1.1	0 38.6 1.5	0 20.4 1.6	— 0 0.8 1.7
60	— 1 13.3 0.4	— 1 5.6 0.8	— 0 53.3 1.2	— 0 37.1 1.5	— 0 18.7 1.7	+ 0 0.9 1.7
Hour-Angle.	6 ^h .	7 ^h .	8 ^h .	9 ^h .	10 ^h .	11 ^h .
m						
0	+ 0 0.9 1.7	+ 0 30.3 1.6	+ 0 38.4 1.4	+ 0 54.1 1.1	+ 1 6.0 0.8	+ 1 13.4 0.4
5	0 2.6 1.7	0 21.9 1.6	0 39.8 1.4	0 55.2 1.1	1 6.8 0.8	1 13.8 0.4
10	0 4.3 1.6	0 23.5 1.5	0 41.2 1.4	0 56.3 1.0	1 7.6 0.7	1 14.2 0.4
15	0 5.9 1.6	0 25.0 1.6	0 42.6 1.4	0 57.3 1.1	1 8.3 0.7	1 14.6 0.3
20	+ 0 7.5 1.6	+ 0 26.6 1.6	+ 0 44.0 1.4	+ 0 58.4 1.1	+ 1 9.0 0.6	+ 1 14.9 0.3
25	0 9.1 1.6	0 28.2 1.6	0 45.4 1.4	0 59.5 1.0	1 9.6 0.6	1 15.2 0.3
30	0 10.7 1.6	0 29.8 1.6	0 46.7 1.3	1 0.5 1.0	1 10.2 0.6	1 15.4 0.1
35	0 12.3 1.6	0 31.3 1.4	0 47.9 1.3	1 1.5 1.0	1 10.8 0.6	1 15.5 0.1
40	+ 0 13.9 1.7	+ 0 32.7 1.5	+ 0 49.2 1.3	+ 1 2.5 0.9	+ 1 11.4 0.5	+ 1 15.6 0.1
45	0 15.6 1.6	0 34.2 1.5	0 50.5 1.2	1 3.4 0.9	1 11.9 0.5	1 15.7 0.1
50	0 17.2 1.6	0 35.7 1.5	0 51.7 1.2	1 4.3 0.9	1 12.4 0.5	1 15.8 0.1
55	0 18.7 1.5	0 37.1 1.4	0 52.9 1.2	1 5.2 0.9	1 12.9 0.5	1 15.9 0.1
60	+ 0 20.3 1.6	+ 0 38.4 1.3	+ 0 54.1 1.2	+ 1 6.0 0.8	+ 1 13.4 0.5	+ 1 15.9 0.1

